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# The degree of self-directedness and the choices of learning methods as related to a cooperative extension program

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BEJOT, DENNIS DAVID

THE DEGREE OF SELF-DIRECTEDNESS AND THE CHOICES OF  
LEARNING METHODS AS RELATED TO A COOPERATIVE EXTENSION  
PROGRAM

*Iowa State University*

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The degree of self-directedness and the choices of learning  
methods as related to a cooperative extension program

by

Dennis David Bejot

A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of the  
Requirements for the Degree of  
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Iowa State University  
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## CHAPTER I. INTRODUCTION

Learning and the acquisition of knowledge and skills are accomplished through the use of many methods and techniques. Until the research findings on self-directed learning were reported, most learning of adults was thought to have occurred through formal classroom teaching, on-the-job training and on a trial and error basis. Public schools are no longer thought of as institutions that provide all the knowledge and skills that are needed over a lifetime. The school provides an educational foundation on which the individual learner can build future learning. A study of pertinent research reveals that youth as well as adults are actively involved in conducting numerous learning activities outside the confines of the educational institution.

Teaching methods, techniques and concepts of learning began to change during the late 1960s as a result of demands from a changing society. In the 1970s educational learning practices began to be focused upon the individual learner without relying upon a group or an instructor. These new practices were called learning exchanges, learning contracts, independent study, individual self-planned learning and behavioral self-control. Printed materials were seen as a method for the individual learner to use in planning and guiding the learning experience. These changes in learning methods, techniques and learning concepts marked the beginning of a newly recognized era - the era of self-

planned and self-directed learning.

The concept of self-directed learning is a recently recognized phenomenon in the American society. The concept implies that individuals are planning, conducting and evaluating a considerable amount of their learning. It also implies that the learner is learning over an entire lifetime.

Lifelong education is not a new concept. Cropley and Dave (1978, pp. 1-2) indicate that:

. . . evidence is found in the work of Brahmin philosophers . . . writings of Solon and other Greek writers, and in the Koran. In modern times, it has been advocated by Comenius and other early educational reformers such as Matthew Arnold. In recent times the actual term "lifelong education" appeared in English educational writings more than 50 years ago, while the main ideas of lifelong education in the contemporary form were spelled out immediately after the Second World War.

Knowles (1975, p. 10) argues that "self-directed learning is the best way to learn". Knox (1978) indicates that adults purposefully engage in systematic and sustained learning activities. Rogers (1978, p. 13) implies that "extended" learning is an evolving concept. She emphasized that it represents a new perspective or attitude toward learning and learning throughout the life cycle. It not only includes a vertical time dimension-literally from birth to death, but also a horizontal dimension encompassing all fields of knowledge, and an inner dimension that reflects

the personal growth needs of human beings for self-expression and dignity. It emphasizes the ability for self-learning and the utilization of all education resources, formal and informal.

Tough (1971) indicates self-teaching occurs when the adult directs his/her own learning and in so doing uses a variety of assistance and resources from others. It is known that adults in their learning seek information from a wide variety of sources: Friends, neighbors, businesses, printed materials, libraries, classrooms and through various national, state and local informal educational and service oriented organizations.

One organization used by many learners is the Cooperative Extension Service. Boone (1970, p. 265) states that the Cooperative Extension Service "is the world's largest publicly supported, informal adult education and development organization". The Cooperative Extension Service being an informal, voluntary organization makes available educational information to all individuals (men, women and youth) through individual contacts, group contacts and through the use of mass media. The individual being independent and self-directed, uses the Cooperative Extension Service to obtain information pertinent to his or her learning activity. Slocum (1957) found that 88.7 percent of the farmers and 67.8 percent of the rural homemakers in Missouri

used Extension as a source of information. Forest and Marshall (1977) found that 76 percent of the residents in the Wisconsin study had contact with the Extension Service. The basic purpose of Extension is to aid in diffusing among the people of the United States useful and practical information and to encourage its application. Kelsey and Hearne (1963) indicate that Extension is an out-of-school system of education in which adults and young people learn by doing.

Tough (1979b, p. 91) reports that most everyone undertakes one or two major learning efforts per year and some individuals undertake as many as 15 to 20. The median is eight learning projects a year, involving five or six distinct areas of knowledge. The average person spends approximately 500 to 600 hours per year in learning, while some individuals spend as much as 2000 hours in self-planned learning.

The literature indicates that continuous learning is itself becoming a goal of life. Adult learning is not found only in the United States, but has been researched in many other countries such as Canada, Jamaica, England and Ghana. Adult learning has no bounds as it is being conducted across all socio-economic groups and cultures. Tough (1979a, pp. 94-95) states:

In advanced nations, more and more men and women are moving beyond material goals, as their lower-order needs such as food are satisfied. . . . They are setting a new goal for themselves: Self-actualization, the realization of their enormous potential. They are seeking the higher joys of gaining new knowledge and skills, of achieving better self-understanding, of learning to interact more sensitively and honestly with others. The incredible expansion of human growth centres and other means of maximizing human potential is one sign of this shift, as well as the multitude of opportunities for spiritual growth and experience. . . . Sometimes the person sets out to gain certain knowledge and skill because it will be highly useful in the very near future. At other times he or she simply wants to possess the knowledge and skill for its own sake, perhaps to have a broad understanding of the world around him or her. . . . Some learning efforts are aimed at changing one's self-concept, perception and understanding of others, deep feelings, or creativity. Some efforts are aimed at modifying overt behaviour, such as a habit, an addiction matter, or shoplifting tendency. Some learning projects are primarily cognitive or intellectual, some are aimed primarily at attitudinal and emotional change, some are designed to develop physical skills, and many are a mixture. Some are brief and superficial. . . . Most learning efforts are motivated by some fairly immediate problem, task, or decision that demands certain knowledge and skill.

In a rapidly changing society where change is the only order of permanence, an individual must continually change to minimize the experience of a cultural shock, as described by Toffler (1970).

Hiemstra (1976, pp. 7-8) summarized the factors that are influencing change:

1. The major forces have acted in concert to help create the interest in and for, lifelong learning. The first of these can be described simply as the

rapidity and constancy of change . . . societal and technological change . . . have had an impact on the adult to specifically cause an increased need for learning.

2. A second major force . . . is the continuous march by many adults toward occupational obsolescence. . . . Consequently, adults frequently must turn to learning activities just to maintain or regain competence.
3. The third force . . . deals with the changes in lifestyles or value system affecting so many people. Call it increased leisure, a movement toward self-actualization, or the "back-to-earth" interest, more and more people are believing that a full and rich life is possible primarily through the maximization of individual potentiality. Consequently, an increasing attention toward interpersonal communication skills, values clarification, and self-identity activities is becoming very recognizable in people's learning efforts. . . . To enhance the development of people's potential, it is suggested that many of the basic attitudes and skills possessed by educators toward learners and the learning process must change. The idea of dispensing preestablished knowledge to a vacuum in the form of a student will need to be supplemented by, and in many instances exchange for, a cooperative relationship between the learner and teacher in a natural process of problem solving, self-discovery, and just plain learning how to learn.

The National Advisory Council on Extension and Continuing Education (1979) sent a special report to the President and the Congress of the United States showing the rate of increase in adult learning. The report revealed that from 1969 to 1975 participation in adult education programs increased two and one-half times faster than the rate of growth of the eligible population. Between 1972 and

1975, full time enrollment in postsecondary education decreased 4.5 percent, while participation in part time postsecondary education increased 8.4 percent.

There is little doubt in the minds of adult educators that a need exists for continued lifelong learning for all individuals. The Federal Communication Commission, in studying the rate of knowledge growth, estimates that by the time a child is born and graduated from college . . . knowledge will be four times as great, and by the time he is 50, it will be thirty-two times as great (Dutton, 1978, p. 13). Knowles (1970, p. 38) put this in a little different perspective when he made reference to the fast changing world by saying that, under present conditions, knowledge gained by the time a person is twenty-one is largely obsolete by the time he is forty; and skills that make him productive in his twenties are becoming out of date during his thirties. He continues by pointing out that education is no longer a process of "transmitting knowledge," but is a lifelong process of discovering what is not known.

Adult educators are continually being faced with a rapid change in the knowledge base and the demand for information by individual learners. Adult educators need to be able to supply current, accurate and relevant information for continued learning and decision-making. As methods, techniques and concepts change, adult educators need to



change and employ those devices that provide the best means of disseminating information.

#### Statement of the Problem

There exists a body of knowledge that suggests adults intentionally use a variety of learning methods throughout their lifetime. This body of knowledge suggests that learning is conducted in a self-directed manner and outside the framework of traditional schools and institutions of higher learning. Evidence also indicates that individuals seek assistance in their learning efforts from a wide variety of sources.

A relatively large body of knowledge has accumulated on the subject of self-directed learning. There also exists a large body of knowledge on methods of learning. However, very little is known about self-directedness of individuals who use the Cooperative Extension Service as a source of information.

This study is designed to describe and analyze, from a selected sample of adults, their degree of self-directedness as it applies to a County Extension program; to determine what method or methods of learning are now used and/or preferred when seeking information to develop a skill and to acquire knowledge; to predict self-directedness of individuals participating in a County Extension program; using selected demographic variables; to determine if one can predict an

extension participation score for individuals using a County Extension Service; to determine what electronic devices are in the home that could be used for educational purposes; and to contrast the self-directed learning readiness scale scores for various populations.

#### Definition of Terms

Adult learner: Any adult who engages in some type of activity, formal or informal, in the acquisition of knowledge or skill, in an examination of personal attitudes, or in the mastery of behavior (Hiemstra, 1976, p. 39).

Andragogy: The art and science of helping adults learn (Knowles, 1970, p. 381).

Clientele: The specific subgroup of people for which an adult education agency aims its program (Hiemstra, 1976, p. 51).

Learning: The acquisition of knowledge, attitudes, or skills, and the master of behavior in which facts, ideas, or concepts are made available for individual use (Verner, 1964, p. 32).

Learning project: A series of clearly related deliberate learning episodes adding up to at least seven hours of effort within a six-month period. The projects are designed to obtain new information, to develop new skills, or to reexamine existing attitudes or beliefs (Tough, 1971, p. 13).

Lifelong learning: A process of learning that continues throughout one's lifetime, depending on individual needs, interests, and learning skills (Hiemstra, 1976, p. 16).

Self-directed learning: In its broadest meaning, self-directed learning describes a process in which individuals take the initiative, with or without the help of others in diagnosing their learning needs, formulating goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (Knowles, 1975, p. 18).

Self-planned learning: A learning activity that is self-directed, self-initiated and frequently carried out alone (Hiemstra, 1976, p. 39).

### Significance of the Study

The results of the study will be useful to the Cooperative Extension Service as well as to other researchers conducting self-directed learning studies.

Specific significance will be to:

1. Add to the knowledge base of the self-directed learning concept, specifically within the confines of the Cooperative Extension Service.
2. Provide knowledge about the self-directed learning readiness scale. There is only one recognized instrument available to measure the degree of adult self-directedness in learning.
3. Provide additional information on the methods of learning as they relate to the Cooperative Extension Service.

4. Provide information which would assist decision-making by the Cooperative Extension Service in selecting appropriate learning methods that fit the learning style of adults based upon the adult's self-directedness.

#### Limitation of the Study

Data collected with the Seward County Data Collection Form are limited to the respondents learning activities during the previous 12 month period. Subjects are to be selected from a population of adults residing within the boundaries of Seward County, Nebraska; therefore, the results reported cannot be generalized beyond Seward County.

#### Assumptions

Two assumptions have been made:

1. That the self-directed learning readiness scale is a valid and reliable measure of the degree of self-directedness in learning.
2. That the questionnaire developed by the researcher is a valid and reliable measure of the methods of learning and use-nonuse of an Extension program.

### Organization of the Study

The dissertation is organized into six chapters.

Chapter I presents the introduction, statement of the problem, definition of terms, significance of the study, limitations of the study, and assumptions.

Chapter II provides a review of current and relevant literature to study the problem. It contains the introduction, theoretical framework, studies pertaining to self-directed learning, studies pertaining to the individual learner, studies pertaining to methods of learning, and a summary at the end of each major division within the chapter.

Chapter III describes the methodology used in the study. It contains the introduction, nature of the study, population and sample, data collection procedures, research questions, data analysis and a summary.

Chapter IV contains the presentation and discussion of the findings. It includes the introduction, self-directed learning readiness score, questions I-XIV, and a summary.

Chapter V contains the introduction, purpose and methodology, major findings of the study, conclusions, implications, recommendations for further research and a summary.

Chapter VI summarizes the study.

## CHAPTER II. REVIEW OF LITERATURE

### Introduction

Recognition that most adults continually learn throughout their lifetime has prompted many educators to investigate the phenomenon and report their findings. The purpose of this chapter is to present a review of literature relevant to the research project. The literature review is broken into the following sections: (1) theoretical framework, (2) research pertaining to self-directed learning, (3) research pertaining to the individual learner, and (4) research pertaining to methods of learning.

### Theoretical Framework

Adult education, being a relatively new field of endeavor, does not have a developed theoretical base. The theory is in its infancy or developmental stage. Kidd (1959, p. 11) points to the lack and need of theory in adult learning. He states:

What we now need is a . . . synthesis of theory and experience regarding the learning of adults, the kind of synthesis that Plato and Thomas Aquinas provided in their respective age. In all probability though, so many fields of work are implicated, this synthesis may result from the efforts of a team of workers.

Moore (1972, p. 84) agrees when he states:

So far we have come only a little way in the search for a theory of independent learning. Perhaps all

we can claim is that we have made a start. Perhaps even that we have caught a glimpse of the outlines and general shape of the field as a massive binding shrouded in the midst. Many years of research lie ahead as we seek to uncover other dimensions and to identify the relationship of its parts.

The theoretical foundations that embrace self-directed learning are found in human development theory. This theory describes the various stages of development throughout the lifetime as a series of developmental tasks. Havighurst (1972, p. 2) defines developmental tasks as "a task which arises at or about a certain period of life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness of the individual, disapproval by the society, and difficulty with later tasks". He divides the various adult developmental tasks into three distinct areas, "early adulthood," "middle age," and "later maturity."

Kummerow, Sillers and Hummel (1978, p. 1) indicate that adult development is perceived as the study of change and stability through the life span resulting from the interaction between biological processes, environmental processes and the individual. The authors state that "adults change rather than simply age; adulthood is not just a period of stability followed by a decline". In documenting that change occurs in adults as they develop through the life cycle, they identify the various disciplines

that are involved:

Generally, sociologists have looked at the age structure of a society and the internalization of age norms. . . . Biologists have studied the development of the human body over time. . . . Psychologists and social-psychologists have studied individual behavior and factors associated with the adjustment of the individual to the cultural environment. . . . Cognitive stage theorists have focused on inner processes and how the individual perceived the world, structures experiences, and makes decisions. . . . Developmental tasks theorists look at the tasks or functions that confronts individuals as they progress through the life-span. . . . Career development theorists study the stages in the career behaviors of individuals. . . . Life-stage theorists have noted the phases, periods, stages, life cycles or life-stages during which adults similar in age seem to face common problems, events and situations. . . . Each focus or inquiry has contributed to the overall understanding of adult development (Kummerow et al., 1978, pp. 2-3).

The literature abounds with research pertaining to the many disciplines involving adult development (David, 1973; Knox, 1977; Havighurst, 1972; Loevinger, 1976; Kohlberg, 1973; Martin, 1978; Rose, 1968; and Neugarten, 1968). Many other researchers could be cited here also.

From a theoretical standpoint, Erickson's (1950) eight stage theory provides a basis for understanding adults. His theory integrates physiological, psychological, social and cultural development across the entire life span and represents an effort to account for the underlying motives of the individual. His first four stages are categorized as "psychic" developmental tasks which must be faced in infancy and childhood. The fifth stage, "Identity," seems to be de-



defined as it is because adolescence uniquely poses the problems of developing a new kind and sense of identity. That is, the problem does not ordinarily arise acutely during middle childhood; and it can not be perfectly resolved if deferred to adult years.

The adult developmental category begins with the sixth stage, "Adulthood: The Intimacy vs. Isolation." In this stage, individuals feel more secure in their identity and are able to establish intimacy with themselves (inner life) and with others. If the individual cannot accomplish this developmental task, there is a feeling of isolation. In the seventh stage, "Adulthood: Generativity vs. Self-absorption" the individual is maturing and develops an interest in establishing and guiding the next generation. If this developmental task fails, it results in self-absorption and frequently in a pervading sense of stagnation and interpersonal impoverishment. In the eighth stage of development, "Senescence: Integrity vs. Disgust," the individual has achieved a satisfactory intimacy with other human beings. He or she has adapted to the triumphs and disappointments of his or her generative activities as parent and co-worker.

Neugarten (1968, p. 85), in discussing Erikson's theory, indicates that the effect of maturation, experience and social institutions on the growing individual are encompassed in the theory; and the resolution of ego crisis

is seen as determining the future development of the personality, the individuals' success in adaptation to both inner and out-world demands, and their evaluation of self. In Erikson's theory, a different psychological issue constitutes the nuclear conflict or crisis for the ego at each developmental stage, but the same issue is also present in preceding and later stages, i.e., "while the problem of ego identity is predominant in adolescence, it is also present in adulthood and old age."

#### Summary

The human development theory describes the human processes from birth to death. In human development, specific tasks occur throughout the lifetime that confront the individual. Depending upon how the tasks are met, success or failure will occur with later developmental tasks. Integrating the physiological, psychological, social and cultural development of the individual across the lifetime aids in understanding the motives and actions of that individual.

Continuous learning is essential if the individual is to achieve happiness, success, approval of society and the ability to handle problems as they arise during his or her lifetime. As the individual grows and matures, learning needs

change. In early adulthood the individual is faced with learning such things as selecting a mate, starting a family, managing money, and assuming civic responsibilities. Moving into middle age the individual is faced with learning new information on how to handle problems such as assisting teenage children to become responsible and happy adults, developing leisure-time activities and adjusting to middle age and aging parents. In later life new learning is needed on how to live with decreasing physical strength and health, to adjust to retirement and to live on reduced income and death of a spouse.

Learning at each developmental stage will enable the individual to adjust to life and a changing society.

#### Andragological framework

Researchers and educators in the field of adult education have not developed a theoretical framework that encompasses the concept of self-directed learning. Nor have they clearly defined the principles and assumptions in which the concept operates. Hiemstra (1976, p. 2) points out that there is an "emerging and evolving body of knowledge or theory in adult learning." The closest identifiable developed framework comes from the body of theory and practice on self-directed learning called "andragogy" developed by Knowles (1970, 1973, 1975). Andragogy is defined

as the art and science of helping adults learn. It operates under a set of crucial assumptions about the characteristics of adult learners. These assumptions clearly define the difference between the learning of adults and children (Knowles, 1970, 1973, 1975):

1. That as a person matures his/her self-concept moves from dependency to one of being a self-directed person. The individual identifies him or herself as a producer or doer. The sources of self-fulfillment are as a worker, a spouse, a parent, a citizen, a self-directing personality, being able to make decisions and accept the responsibility to manage one's own life.
2. That the adult accumulates a growing reservoir of experience that becomes an increasingly important source for learning. To an adult, experiences are identified as part of him or herself. Self-identity by an individual is defined by a set of unique experiences such as occupation, work place, places traveled, achievements and accomplishments. Experience is a value and if not used in the learning experience the individual feels its worth is minimized and feels rejected.

3. That the adult's readiness to learn becomes increasingly oriented toward the developmental tasks of the individual's social roles. Havighurst (1972) suggests that developmental tasks arise at or about a certain identifiable period in the life of the individual; successful achievement of which leads to happiness and success with later tasks, while failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks. Developmental tasks provide a means of identifying the "teachable moment," or those times when the individual is ready to learn.
4. That the time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly the orientation shifts from subject-centeredness to problem-centeredness. Adults enter into a learning situation with a problem to solve (Knowles, 1970, pp. 39-48).

Knowles (1973), in formulating his theory and assumptions of andragogy, drew upon the work of Erikson (1950, 1959, 1964), White (1959), Iscoe and Stevenson (1960), Bruner (1961), Getzels and Jackson (1962) and Bower and Hollister (1967).

Vacca and Walker (1980) agree with Knowles when they say that a basic assumption of andragogy is that as learners grow and

mature, their experiences increase. These experiences in themselves become valuable resources for their own continual learning. They further state:

Andragogy . . . assumes that individuals are ready to learn what they "need" in order to meet developmental tasks encountered throughout various phases of their lives. These tasks are primarily encountered through the evolution of an individual in his or her social role as a student, worker, spouse, parent, and the like. Andragogues, such as Knowles and Newton, believe that curriculum should be timed to be in step with developmental tasks as the individual encounters them—to make full use of the teachable moment (Vacca and Walker, 1980, p. 24).

Bloom's theory of cognitive intellectual development is based upon a progression from one stage of intellectual ability to the next higher stage. His stages, in sum, include memorization as the "lowest" level of intellectual ability, then application, analysis, synthesis, and evaluation as the "highest" intellectual level. Bloom (1956) argues that as a learner moves through each stage he or she becomes increasingly self-directed.

Holtzclaw (1979, p. 24) states that "the free learner, a self-directed individual operating on the belief that he can make his own decisions and take responsibility for them, has been and continues to be the cornerstone of our democratic society. Such a philosophy, which is based on an honest self-appraisal, leads to a mature, self-initiating individual, whether he is an adult learner or a counselor/facilitator of adult learners." He continues, one

of the greatest contributions of the existentialist philosophers has been to show that man is free to choose and that he must choose (Holtzclaw, 1979, p. 19).

Philosophically, McKenzie (1979, p. 256) points out that there is a resemblance between andragogy and the philosophy of progressivism; that andragogy is a lineal descendent of progressivism.. He suggests:

That progressivism represents a complete philosophical system which embraces metaphysical, epistemological, and axiological principles. . . . The emphasis of progressivism historically was childhood education. . . . Andragogy obviously stresses adult education. . . . Progressivism emphasized public school education, despite the frequently repeated caveat that education is conterminous with life. Andragogy emphasized the so-called non-traditional setting for education. . . . Progressivism as a philosophy of education is grounded in the general philosophy of pragmatism. . . . While andragogical paradigm is not well-grounded in a general philosophical system . . . the matrix of which andragogy took form was the matrix of existentialism. . . . Existentialism stressed freedom, individual authenticity, life-as a project and individual development, the personal encounter with concrete problems. In terms of the educational implications of existentialism, the teacher ". . . is not in his classroom to impart knowledge (realism), or as a consultant in problem situations (pragmatism), or as a personality to be emulated (idealism). His function is to assist each student personally in his journey toward self-realization." . . . The adult learner's choice in determining when, where, and how to learn is central. The learner is not viewed as someone who must conform for the sake of well-engineered society, but as one whose primary task is self-creation and personal authenticity.

Summary

Andragogy, being defined as the art and science of helping adults learn, operates on a set of assumptions. They are: as a person matures, his self-concept moves from one of being a dependent personality toward one of being a self-directing human being; he accumulates experiences that become an important source for further learning; his readiness to learn becomes oriented toward the developmental tasks of his social roles; and his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem-centeredness.

Under this concept the learner diagnoses his own learning needs, takes the initiative to decide what is to be learned, sets his own goals, plans the learning experience, directs the learning by finding various resources to complete the task, and evaluates his own learning experience.



## Studies Pertaining to Self-directed Learning

### The self-directed learner

The literature pertaining to adult learning indicates that we are a self-directed learning society. The beginning research of Tough's (1971) adult learning projects provided a basic understanding and background for inquiry, and the impetus for further research into the phenomenon. Knowles (1975, p. 18) refers to self-directed learning as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning outcomes." He further suggests that other labels found in the literature to describe this process are "self-planned learning," "inquiry method," "independent learning," "self-direction," "self-instruction," and "autonomous learning." The various labels are often mistakenly associated with the belief that learning occurs in isolation and the learner conducts all activities on an independent basis. Learning actually occurs with the assistance of many helpers, such as teachers, peers, friends, relatives, tutors, mentors, resource people, books and through group action.

Moore (1972) states that the autonomous learner surrenders temporarily some of this control in the learning

situation but will not give up overall control in the learning process. He seeks a particular kind of teaching which in Maslow's words, "receptive rather than intrusive, doesn't condition, reinforce, or boss, but helps him discover his own problems, his own aptitudes, and his own answers."

In self-directed learning the individual has the freedom of choice and assumes the responsibility for his or her decisions. Holtzclaw (1979, p. 24) states that "most adults want to assume the responsibility for their own learning although some may be temporarily upset at being given the necessary freedom and responsibility for that learning. Their learning experiences have often occurred in real-life problem situations and they need to be encouraged to think of this situation as a learning laboratory, as a handy arena for trying out the concepts and theories which they are encountering through reading and the more formal classroom activities." Rogers (1969, p. 130) agrees when he states that "if self-initiated learning is to occur, it seems essential that the individual be in contact with, be faced by, a problem which he perceives as a real problem for him." He continues by stating "the evaluation of one's own learning is one of the major means by which self-initiated learning becomes also responsible learning. It is when the individual has to take the

responsibility for deciding what criteria are important to him, what goals he has been trying to achieve, and the extent to which he has achieved those goals, that he truly learns to take responsibility for himself and his direction."

Bruner (1961), in the "Act of Discovery," identifies the benefits that might be derived from experience of learning through discovery: increase in intellectual potency, the shift from extrinsic to intrinsic rewards, the learning of heuristics of discovery and the aid to memory processes. He states further that the attitudes and activities that characterize "figure out" or "discovering" things for oneself also seem to have the effect of making materials more readily accessible in memory, i.e., the more self-directed the individual, the more interest in learning.

Knowles (1975, p. 10) declares that "self-directed learning is the best way to learn." In discussing why a learner should be self-directed, he states, "an essential aspect of maturing is developing the ability to take increasing responsibility for our own lives—to become increasingly self-directed" (p. 15). He elaborates further on why people are self-directed:

1. There is convincing evidence that people who take the initiative in learning (proactive learners) learn more things, and learn better, than do people who sit at the feet of teachers passively waiting

to be taught (reactive learners). . . . They enter into learning more purposefully and with greater motivation. They also tend to retain and make use of what they learn better and longer than do the reactive learners.

2. That self-directed learning is more in tune with our natural processes of psychological development. . . . As we grow and mature we develop an increasingly deep psychological need to be independent. First of parental control, and then later of control by teachers and other adults. An essential aspect of maturing is developing the ability to take increasing responsibility for our own lives to become increasingly self-directing.
3. That many of the new developments in education—the new curriculums, open classrooms, nongraded schools, learning resource centers, independent study, nontraditional study programs, external degree programs, universities-without-walls, and the like—put a heavy responsibility on the learners to take a good deal of initiative in their own learning. Students entering into these programs without having learned the skills of self-directed inquiry will experience anxiety,

frustration, and often failure.

4. It is tragic that we have not learned how to learn without being taught. . . . We are entering into a strange new world in which rapid change will be the only stable characteristic. . . . This implies that it is no longer realistic to define the purpose of education as transmitting what is known. . . . The main purpose of education must now be to develop skills of inquiry" (Knowles, 1975, pp. 14-15).

#### A changing society and self-directed learning

Rogers (1969, p. 303) points out that the world is changing at an exponential rate. If our society is to meet the challenge—in science, technology, communications, and social relationships, we cannot rest on the answers provided in the past, but must put our trust in the processes by which new problems are met. For so quickly does change overtake us that new knowledge and skills are obsolete before they are used in problem solving. This implies not only new techniques for educational but . . . a new goal. . . . The aim of education must be to develop individuals who are open to change. Only such a person can constructively meet the perplexities of a world in which problems spawn much faster than their answers (Rogers, 1969,

p. 304). He continues by stating that "the only man who is educated is the man who has learned how to learn; the man who has learned how to adapt and change; the man who has realized that no knowledge is secure that only the process of seeking knowledge gives a basis for security" (Rogers, 1969, p. 104).

Cropley and Dave (1978) pointed out that the traditional view of education is that it takes place mainly in school and that it occurs during childhood. However, according to many educational writers this point of view is now obsolete. Important in contemporary life is that people be able to adjust effectively to rapid and pervasive change, which is already occurring and is likely to continue for a considerable time. Schools are thus seen as no longer capable of providing most of the learning experiences people need.

Kidd (1980, p. 9) states:

Lifelong education . . . the growing complexities of earning a living and being a competent participant in the community are making the development a necessity. It is no longer feasible to plan on a period of education that extends only through the late teens or early twenties to carry us through life in the latter part of the 20th century. If our lives are to be fulfilling, if our communities are to be liveable, if our industry is to be productive, if our society is to be healthy, we must have opportunity for education through our lives.

Researchers who are in basic agreement with Kidd are Hersburgh, Miller and Wharton (1973), Kidd and Selman (1978), McClusky (1970), Knox (1977) and Calvert (1977).

Self-directed learning is not for everyone

There is evidence in the literature that indicates that not all individual's prefer or function effectively under a self-directed mode of learning. Kratz (1978), investigating adult basic education students, found that the adults became more dependent than self-directing as learning increased. This finding agrees with the findings of Peters and Gordon (1974), who found an inverse relationship between achievement and self-direction. Carlow (1967) reports that students who are submissive and possess low conceptual level scores do poorly under the discovery learning approach. Individuals who have dependent personalities tend to be poor self-directed learners. Pupils who are "anxiously dependent" may be paralyzed by demands for self-reliance (Crombach, 1967, p. 90).

Rogers (1969) disagrees that adults want someone to direct their learning. He argues that the individual who examines his situation deeply, and feels that he perceives it clearly, will not deliberately choose to have the direction of himself undertaken by another. Also when all the elements are clearly perceived, the ultimate reward is self-actualization and growth.

Despite a few individuals in this category, Tough (1979b) states that most are remarkably capable of planning

and conducting their own learning. They decide what to learn and how to go about it, with reasonable success.

Reasons for participation in learning

Houle (1963), in studying why adults engage in learning, indicated that there are three reasons for participation:

- (1) Goal Oriented. The learner has a particular goal in mind as a basis for undertaking some learning or activity.
- (2) Activity Oriented. The person engages in some educational endeavour because he or she loves going or doing.
- (3) Learning Oriented. The learning is continually learning for the sake of learning.

Hiemstra (1976, p. 85) continues by stating, "there are other reasons for adults to learn. Just wanting to be better informed, to have initial or updating job information, achieve a religious goal, to escape from environmental problems or pressures, and to comply with a formal requirement."

Knox (1980, p. 378) argues that "purposeful learning occurs throughout life." He states that each year most American adults engage in at least one purposeful and systematic learning project and average five per year. About one-fifth of the learning projects are courses and workshops provided by institutions and organizations and the remainder are self-directed.



Knox (1977, p. 425) indicates that adults approach learning activities from a different perspective than youth. The learning activity reflects previous experiences, including intent and type of formal education, recent use of learning procedures, and current circumstances that give rise to the need for increased competence. Most adults approach learning activities with specific expectations about what they will gain from the experience. Tough (1979b) agrees when he indicates that expectations of adults who engage in self-directed learning activities use their expectations as a guide in their learning effort.

### Summary

As self-planned and self-directed learning is being conducted, the individual uses many human and nonhuman resources. The self-directed learner is always in control of the learning situation and assumes the responsibility for the learning. As new learning is discovered by the learner, the knowledge acquired is retained longer and is available for decision-making over a longer period of time. Moving through the developmental stages the individuals become increasingly more responsible for their own life, resulting in an increased self-directedness. As society changes, the rate of knowledge increases, therefore, the individuals' needs for continuing education increases. Not

everyone is adapted to function as a self-directed learner in the society. These individuals become dependent upon the instructor for direction and guidance in their learning. However, most people are capable of planning and conducting their own learning activities and become self-directed.

#### Research Pertaining to the Individual Learner

Learning is not static, but a dynamic, ever changing phenomenon in the American society. The majority of people are continually engaging in learning projects covering a multitude of subjects. Adult participation in learning projects is no longer an assumption but a matter of record. Kidd (1980, pp. 55-56) pointed out that in 1975, seventeen million adults participated in adult education. This figure represents 11.6 percent of the eligible adult population of 145.6 million, and represents a 31 percent increase over the 13 million in 1969. This increase reflects a participation rate of two and one-half times greater than the growth rate of the country. Most participation occurred in the age groups of 25 to 34, and 55 and over. However, all ages, from the very young to the very old, participate. The data revealed that from 1969 to 1975, participation by females increased by 44.7 percent. During the same period of time, male participation increased only 18 percent. The

increase was attributed to the attainment of higher educational levels of people in the United States.

Studies pertaining to learning by adults

McCatty (1973) studied learning projects of 54 professionals in engineering, law, education, medicine, architecture and science in Ontario, Canada. The professionals conducted an average of 11.6 learning projects per year and spent 1244 hours in conducting their learning. Sixty-six percent of the learning projects were self-planned. Fifty-five percent of the learning projects were taken for vocational reasons and 15 percent for recreational and hobby interests. Other researchers studying professionals in the United States and Canada who found similar results were: Allerton (1974), Benson (1974), Johns (1973), Miller and Botsman (1975) and Tough (1971).

Zangari (1977) studied the learning projects of 45 educators in postsecondary institutions in Nebraska. During the one year period he found that the average educator undertook 7.19 learning projects and averaged 583.20 hours in their learning effort. Approximately 72 percent of the learning projects were self-planned. Over 37 percent of the projects were undertaken for improving job performance and professional growth. The remaining percentage fell into projects related to home and family, personal

improvement and hobbies. Fair (1973), Miller (1977), Kelley (1976) reported similar findings in their studies.

Researchers who investigated other segments of society were: Coolican (1973), who studied mothers; Hiemstra (1975) investigated adults 55 years of age and older; Umoren (1977) studied adults in two socio-economic groups; Peters and Gordon (1974) studied rural Tennessee adults and Baghi (1979) investigated adult basic education students. The research findings of these studies were similar. Johnson (1973), studying adults who had just completed their senior high school examination, found these students spent approximately twice as much time and conducted twice as many projects as other researchers reported.

#### Characteristics of adult learners

Individuals who are self-directed in their learning activities possess certain identifiable characteristics. Hiemstra (1976, pp. 84-85) pointed out that people who participate more than others in adult education are likely to be: younger, higher educated, members of more organizations, positive in their attitudes toward education and the educational agency, middle class, highly motivated to learn, urban residents with easy access to education, involved with broad and diverse leisure activities, highly skilled in social relationships and oriented in terms of a

personal role of service to others. Penland (1978), Doherty (1980), Oaks (1972) and Hiemstra (1978) report similar findings.

The American population 18 years of age and older perceive themselves to be continuous learners involved in self-initiated learning projects (Penland, 1979, p. 173). Self-planned and self-directed learning efforts begin at an early age, as reported by Tough (1979b, p. 93). He indicates that when a person reaches 16 years of age, he will spend far more time at sustained learning efforts than at younger ages. The learning is toward handling new responsibilities and the major problems and decisions that need to be faced.

Boyle (1962) examined the participation of 200 young adult males in their educational activities. He concluded that educational experiences while in high school influenced the decision to participate in education as an adult.

Sabbaghian (1979) examined the self-directedness of college students at Iowa State University. She found a significant interaction between the variables of education, sex and age.

Numerous researchers have reported learning characteristics of adults. Similar findings have been reported by: Rogers and Shoemaker (1971), Baghi (1979), Verner and Newberry (1965), Kelsey and Hearne (1963), Voland (1956), Kidd (1980), Lewis (1971) and McClusky (1970). Many other

researchers could be cited.

Morgan, Holmes and Bundy (1976) pointed out that an intelligent person of twenty years of age can expect to become more intelligent (continue to learn) until he is 50, and many until the age of 70. Dobbs (1970) reports that at 70 years of age, the decline in mental ability is associated more with disease than natural causes. Botwinick (1978) implies there is little reduction in social competence between 40 and 70 years of age.

### Summary

It is evident that many adults are actively involved in learning and possess many different characteristics. Most adults conduct an average of five to eight learning projects per year, with some conducting as many as fifteen. Adults use different sources of planners, but plan the majority of their learning themselves. Other methods used are group, one-to-one, material resources, and mixed planning. Characteristics such as age, education, sex, occupation, attitudes, motivation, and place of residence affect the amount of learning conducted. Participation in adult education and becoming a self-directed learner begins with educational experiences in high school and persists into the adult years.

## Research Pertaining to Methods of Learning

### Classifying extension methods

There are various classifications of extension methods used by researchers. However, the components that make up the classifications are essentially the same. Boone (1970, pp. 274-275) states that the methods utilized by Extension adult educators to provide learning experiences for clientele can be classified into three categories:

1. Individual Contact. The Extension educator and the individual learner interact in relation to problems—farm, home or business visits; personal office calls; and correspondence.
2. Group Methods. Have direct verbal or visual contact with two or more persons—lecture; recording; telephone and telelecture; lecture utilizing visual aids and other techniques; discussion; forum and panel discussions; result demonstrations; tours and field days; method demonstrations; workshops, in-depth schools; and combinations of two or more of the preceding.
3. Mass Communication Method. Communication with large, unassembled portion of a population in such methods include newspapers, magazines, radio, television, publications, displays, exhibits,

circular letters, telephone tapes and answering sets.

Brunner (1949) classified extension methods as "object illustrations," "oral," and "printed material." Kelsey and Hearne (1963) reported extension methods as "personal," "group," and "mass approach." Houle (1972) used classifications of "individual visits," "independent study," and "mass media."

#### Learning methods used by professionals

Zangari (1977) studying adult educators in post-secondary institutions, found that 33.81 percent used books, articles, newspapers and other printed media; 18.32 percent used experts; and 15.10 percent used friends, relatives and peers. He also found that 12.13 percent used group/group instructors; 11.10 percent used experiences/observations; 5.16 percent used television/radio/recordings/films; 1.93 percent used travel; 1.55 percent used displays/exhibits/museums; and 0.90 percent used programmed materials.

#### Learning methods used by young adults

Baghi (1979) investigated learning efforts of 46 adult basic education student. He found the major methods of learning for self-planned learning was highest in reading with 22.5 percent of the sample, followed by conversation at 8.7



percent, observation at 8.1 percent, television and/or radio at 4.0 percent, doing at 2.9 percent and other accounted for 0.6 percent.

Hendrickson and Foster (1965) studied the needs of 300 out-of-school youth, ages 19 to 26 from three socioeconomic areas of Columbus, Ohio. They found that most individuals read magazines and newspapers to obtain information. They learned that a major obstacle preventing individuals from attending meetings was family responsibilities. The individuals were more interested in pragmatic affairs such as job improvement, personality improvement and establishment of a home. These findings coincide with Havighurst's developmental stages.

Newton (1958) examined 500 airmen on the influences of learning on alternative modes of presenting learning materials. The study revealed the best method for learning complex materials was reading.

#### Learning methods of older adults

Hiemstra (1975), in studying 214 older adults in Nebraska, found that older adults who were highly self-directed in their learning used books, articles, newspapers, and other printed materials most often in their learning. Other sources used were: mixed, group/group instructors, television/radio/recordings/films; friends, relatives, peers;

experts; programmed materials and displays/exhibits/museums.

DeCrow (1974, p. 6) investigated the learning methods of adults 62 years of age and over. He stated that "regular or shortcourses are the standard methods to teach older people." The study revealed that older adults learn by many means and are particularly adept in nonschool style learning. Methods often used were correspondence study, travel study, conferences and workshops, book talks, museum tours, on-the-job training, and media training. The study showed that 33 percent of the older people used individual instruction in their learning (DeCrow, 1974; p. 35). Johnstone and Rivera (1965), Pugni (1965) and Marshall (1976) are in agreement that older adults tend to choose private instruction and home study.

#### Learning methods used by rural farm families

Nolan and Lasley (1979) studied 691 farmers who used the Cooperative Extension Service in Missouri as a source of information. The study found that 65 percent read publications, 55 percent visited the extension office, 44 percent attended meetings and 23 percent received visits from the extension specialist on their farms. Similar results were found by Houle (1972) and Kidd (1959).

Baker (1955), in determining sources of information from 110 farmers in Rice County, Minnesota, found that the average farmer received information from 8.55 different sources. The

sources most frequently reported were "magazines or newspapers" and "county agents." His study showed that significant differences were observed in the extent to which groups of farmers of varying age and educational level utilized particular sources. Younger farmers made greater use of bulletins, evening classes, agriculture teachers, and veterinarians; older farmers made greater use of neighbors or relatives; farmers having some high school education made greater use of bulletins, county agents, feed producers or machinery dealers, 4-H club program, magazines or newspapers and the soil conservation program.

Fisher (1980) examined the self-directed learning of 224 farm wives in Minnesota. She found most farm wives learned from reading printed materials. Learning through organized groups was used infrequently.

Roberts (1961) studied three teaching methods that affected the adoption of new farm practices by seven rice farmers in St. Landry Parish, Louisiana. He found that each method (group meetings, farm visits, and circular letters) appeared to influence the rice growers. He concluded that farm visits and group meetings seemed considerably stronger as motivation for adoption on new practices.

Hoiberg and Huffman (1978) studied 933 rural Iowa farm families in determining the different information sources

used in the decision-making process. The study showed that items pertaining to the home were usually decided upon with information from farm magazines, newspapers, popular magazines and radio and television. Seventy-nine and nine tenths percent used medical personnel, 77.8 percent used friends and relatives, 46.8 percent used druggists, and 41.4 percent used demonstrations sponsored by commercial companies. Decisions for farm business were mostly made with information from farm magazines and radio programs. Personal sources used were talking with farm dealers, elevator personnel, salesmen, buyers, and with other farmers. It was learned that most farm operators were diversified in their source of information for production-related farm business decision-making.

Verner (1967), studying the adoption or rejection of innovations by dairy farm operators in the lower Frazer Valley in Canada, found that at the awareness stage, the mass media sources were the most important, and constituted about 55 percent of all the sources reported. Research reported by Kelsey and Hearne (1963) indicated the same findings. It was pointed out that friends and neighbors are first in importance in the evaluation, trial and adoption stages. Kidd (1959) reported that a study involving changes in practices in over 15,000 farm families in 27 states showed that farm people often learn from or copy their neighbors. For men, the neighbor was the source of changed practices at

least 25 percent of the time. For women, about one-half of the practices come as a result of a meeting in which some new methods were demonstrated.

#### Learning methods used by rural and urban residents

Numerous methods, techniques and sources are used by adults in their learning process. Johnstone and Rivera (1965), in studying methods adults used in educational activities, found that 56.2 percent attended classes, 10.8 percent participated in group discussion, 10.5 percent participated in lectures and talks, 8.4 percent participated in correspondence courses, 7.8 percent participated in private instruction, 7.7 percent participated in on-the-job training, 1.5 percent participated in educational television, and 0.4 percent used other methods.

Sources used to secure information on energy by rural and urban residents were investigated by McKenna and Nixon (1979). They found that newspapers and magazines were popular sources for each group. Rural residents utilized newspapers 56 percent of the time, magazines 53 percent, television 49 percent, utility company literature 42 percent, radio 31 percent, newsletters 28 percent, and meetings 9 percent. Urban residents in their learning used newspapers 74 percent of the time, utility company literature 64 percent, magazines 59 percent, newsletters 54 percent, television 44 percent, radio 34 percent, and meetings 18 percent. It was learned

that urban residents used a greater variety of informational sources than rural residents in their learning.

#### Studies pertaining to use of the Extension Service

The Cooperative Extension Service is, undoubtedly, the largest single organized adult educational program in the world (Verner and Newberry, 1965, p. 8). Extension programs tend to attract adults in the middle years, high school graduates and those with some college education. Users are of middle income and from middle size farms. There is a tendency for the lower socio-economic groups not to participate. However, the authors indicated that "the Cooperative Extension Service and the public schools are attracting larger numbers of the less educated."

Forest and Marshall (1977), investigating the contacts with the Cooperative Extension Service of 1192 residents in Shawano County, Wisconsin, found that 76 percent of the residents had contact with the extension service. Mass media was the most effective method in reaching people. The study showed that 28 percent viewed extension television programs; 19 percent heard extension radio programs; 15 percent attended progress days or other similar events; 12 percent attended workshops and shortcourses; 4 percent used educational television network; and 3 percent took part in independent study courses (extension correspondence courses). Eighty percent of the people indicated they contacted the Extension

Service often; 65 percent, sometimes; 44 percent, seldom; and 20 percent, never. Contact percentage was directly associated with age, income, education level and occupation. Sex or ethnic background was not a significant factor in contact rate with extension. Karlberg (1980) found similar results.

Forest and Lonergan (1974) studied 108 individuals ranging in age from 21 to 61 on the effectiveness of Extension teaching by telephone. The study revealed that most people using the Extension Service were women. Sixty-five percent had called the Extension office approximately ten times during the study period. They concluded that the telephone was an effective method of teaching.

Slocum (1957) investigated the attributes of 314 farm families in Washington State with low frequency of contact with Agricultural Extension. The study revealed that: individuals with less education had fewer contacts with Extension; women with children less than 14 years of age had less contact than other women; fulltime farmers had more contact than parttime farmers; men in families with lower levels of living tended to have fewer contacts than did their wives; operators with low extension contacts tended to have a lower level of informal contacts with other families. A significant relationship existed between the level of operators' contacts with extension and the frequency with which

information sources other than extension were consulted. That is, operators with low levels of extension contacts were more likely to have obtained agricultural information from banks, commercial companies and their fieldmen or the soil conservation service. They were less likely to obtain information from farm magazines, radio, television, read publications or acknowledge having relied upon other farmers for information. For homemakers, there was little relationship between the frequency of contact with extension and the intensity of use of various informational sources, including radio, television, commercial company representatives, and their own children. It was concluded that low contact operators are less likely to obtain information from mass media means and that the problems of communication with them through such channels are extremely difficult. Similar findings were reported by Coleman (1951) and Straus (1959).

#### Studies in determining an extension score

Voland (1956) looked at four different methods of determining a participation "extension" score. He compared a simple value, a weighted within value, judged score, and a combination of weighted and judged score. The researcher concluded that since both the "weighted within" and the "weighted between" scores were highly correlated with the simple score, any one of these scores would measure contact



with the Extension Service equally well. Voland cites Beal (1954, p. 24) in that "other research workers have found that weighting does not appreciably change the value of their scores." Factors significantly related to extension score found by Voland were: net worth, size of farm, attendance at adult evening school, participation in the veterans training program, self-image, and knowledge of facts about the extension system. Age was not a significant factor in participation in extension activities.

Gibson (1944, p. 6) measured participation in an Extension program and obtained a score by totaling the number of different types of contacts each individual had with the Extension service. He noted that a more adequate method of measuring participation would have been to determine the extent of activity under each type of contact but it was felt that the data were not reliable in such detail, although an attempt was made to obtain the data. For example, farmers could recall having attended extension meetings during the previous year but many had difficulty recalling the exact number. Tough (1971) reported the same difficulty.

### Summary

A review of preceding research clearly indicates that people are using many methods and sources of information in conducting learning experiences. However, adult educators

often fall into the trap of using one or two methods of presenting materials to adults. Many methods currently being used to teach adults have been copied from the schoolroom. Classroom methods and techniques are so firmly entrenched into adult education that it often becomes difficult to develop or adapt more effective approaches.

The majority of individuals learn from reading or through the use of mass media methods. Older adults often prefer to use correspondence study, travel study or small group activity in their learning. Individuals in rural areas tend to use fewer learning methods than do individuals located in urban areas. Formal education attainment has been shown to be the best predictor of method orientation. People of low educational attainment, low family income, and advanced age, are low participants in educational programs because of preference for individual methods rather than group methods.

Individuals who utilize the Cooperative Extension Service tend to obtain the information through use of mass media sources. However, individuals who have low contact with the Extension Service tend to obtain information from banks, commercial companies, fieldmen and the soil conservation service. They are less likely to obtain information from farm magazines, radio, television, publications

or to acknowledge having received information from their neighbor. The diffusion process accounts for a high percent of changes in adopting new farm practices.

### CHAPTER III. METHODOLOGY

#### Introduction

This chapter describes and discusses the methodology of the study. It presents the nature of the study, the population and sample, instruments, data collection procedures, research questions and data analysis procedures.

#### Nature of the Study

This study was guided by the methodology of survey research techniques. Survey instruments were used to obtain data which provide for information to be reported as frequencies and percentages, as well as exploring and reporting relationships between different variables. Borg and Gall (1979, p. 283) state that "studies involving surveys account for a substantial proportion of the research done in the field of education." Among other scientific disciplines which make frequent use of surveys are economics, anthropology, psychology and public health.

#### Population and Sample

The population selected for this study was composed of people from family residences within the boundaries of Seward County, Nebraska. The family residences were

identified through two sources: first, the telephone directory of Seward provided a listing of individual names, addresses, and telephone numbers of city and rural residents of the county. Telephone directories of towns surrounding Seward County provided a list of individual families with rural Seward County addresses who had telephone numbers from communities outside the boundaries of the county. Secondly, the Seward County Town, Address and Map (TAM) book was used to identify all rural residents. Once the rural residents were identified, the names and addresses were cross-checked with the location of the rural family residence on the County TAM. The total population within the boundaries of Seward County consisted of 5042 families.

Due to the amount of time and expense, the investigator could not realistically interview a population sample of more than 100 individuals. To insure a random sample, the total population was used as "input" into the Iowa State University computer. The computer program randomly selected a primary sample of 100 families with an alternate or secondary sample of 100 families. An alternate rotation of male and female was used to determine which individual in each family residence was to be selected for the sample.

The researcher prepared a listing of all individuals who were randomly selected. The list showed the individual's name, address and telephone number. The prepared list of

individual names was checked by telephoning the banks and chambers of commerces in Seward, Milford, Beaver Crossing and Utica; Concordia Teachers College in Seward; and the Southeast Community College in Milford. This procedure allowed the researcher to determine, with a high degree of certainty, whether or not the individual still resided in the county. In the primary list, 23 individuals were known to be deceased, moved away or did not fit the sample criteria. Individuals who did not fit the sample criteria were those selected as males and it was found that only a female resided at the residence or vice versa. In the secondary list, 25 individuals were known to be deceased, moved away or did not fit the sample criteria. Out of 200 names, 152 individuals were involved in the study. Of those involved, 45 could not be located after fifteen attempts, 24 refused to participate, the last 6 names on the alternate list were not used, and 77 completed the mailed questionnaire and interview.

In the total sample of respondents, Table 1 shows that 66.2 percent of the individuals were located in the cities; 7.8 percent resided in rural nonfarm residences; and 26.0 percent resided in rural farm residences.

Of the 77 individuals participating in the study, 42 were men and 35 were women. Table 2 illustrates the distribution of the sample population according to sex.

Table 1. Distribution of the sample population according to place of residence

Place of residence	Number of residents	Percentage in each category	Cumulative frequency
Rural farm	20	26.0	26.0
Rural nonfarm	6	7.8	33.8
Seward	23	29.9	63.6
Milford	15	19.5	83.1
Beaver Crossing	1	1.3	84.4
Utica	5	6.5	90.4
Goehner	1	1.3	92.2
Bee	1	1.3	93.5
Pleasant Dale	2	2.6	96.1
Staplehurst	3	3.9	100.0
Cordova	0	-	100.0
Tamora	0	-	100.0
TOTAL	77	100.0	100.0

Table 2. Distribution of the sample population according to sex

Sex	Number	Frequency (percent)
Male	42	54.5
Female	35	45.5
TOTAL	77	100.0

Ages ranged from 19 to 81 with a mean age of 46.0 years.

Table 3 indicates the distribution of the sample by age.

Table 3. Distribution of the sample population according to age

Age in years	Number	Frequency percent	Cumulative percent
15-19	1	1.3	1.3
20-24	4	5.2	6.5
25-29	8	10.4	16.9
30-34	10	13.0	29.9
35-39	10	13.0	42.9
40-44	4	5.2	48.1
45-49	6	7.8	55.9
50-54	11	14.2	70.1
55-59	7	9.1	79.2
60-64	4	5.2	84.4
65-69	3	3.9	88.3
70-74	5	6.5	94.8
75-79	2	2.6	97.4
80-84	2	2.6	100.0
TOTAL	77	100.0	100.0

Mean 46.0

Standard Deviation 15.9

Range 19-81

Education levels of respondents ranged from less than an eighth grade education to two individuals holding doctorate degrees. Table 4 shows the distribution by education. It should be noted that 18.2 percent of the individuals had less than a high school education, 58.5 percent were between a high school education but less than a bachelor's



Table 4. Distribution of the sample population according to levels of education

Level of education	Number	Frequency percent	Cumulative percent
Less than eighth grade	2	2.6	2.6
Less than a high school diploma or equivalency	12	15.6	18.2
High school diploma or equivalency	25	32.5	50.6
Attended vocational or other professional school	5	6.5	57.1
Graduated from vocational or other professional school	7	9.1	66.2
Attended college	8	10.4	76.6
Graduated from college (BS/BA)	9	11.7	88.3
Attended graduate school or other professional school after BS/BA degree	3	3.9	92.2
Received MS/MA	4	5.2	97.4
Received Ph.D or Ed. D	2	2.6	100.0
TOTAL	77	100.0	100.0

degree, and 23.4 percent of the individuals held advanced degrees from bachelor's to doctorate. Data collection instruments were checked with the participant for completeness at the end of each interview. Therefore, all data collected from the sample were usable in the study.

### Instruments

Two instruments were used to collect the data necessary for analysis in this study. One instrument was the Self-Directed Learning Readiness Scale (see Appendix A), and the second was the Seward County Data Collection Form developed by the researcher (see Appendix B).

#### Self-directed learning readiness scale

This is the only known instrument in the field of adult education that measures the degree of self-directedness within the individual. The instrument was developed by L. M. Guglielmino (1977). A three-round Delphi survey technique was used involving 14 leading authorities on self-directed learning. The self-directed learning readiness scale is a self-report questionnaire with 58 Likert-type questions. The respondent is asked to read a statement and then indicate the degree to which that statement accurately describes the individual. In order to avoid a response bias, the actual title of the scale is not used during its administration. Instead, the instrument is described as a "questionnaire designed to gather data on learning preference and attitude toward learning." The instrument has a reliability coefficient of .87 as reported by Guglielmino.

Guglielmino's factor analysis indicated the presence of eight factors in self-direction in learning: Openness to

learning opportunities, self-concept as an effective learner, initiative and independence in learning, informed acceptance of responsibility for one's own learning, love of learning, creativity, future orientation, and ability to use basic study skills and problem solving skills.

Guglielmino suggests that scores of 239 and higher indicate the individual is high in self-direction, scores between 210 and 238 indicate average in self-direction, and scores of 209 and below indicate low self-direction.

#### Seward County data collection form

The Seward County Data Collection Form was designed as an interview instrument. It was used to collect demographic data on each respondent to determine the method or methods now being used and preferred when seeking information to develop a skill and/or acquire knowledge. The instrument was used to obtain data to determine the degree of individual use of the Seward County Extension Service and ultimately determine an extension score. In determining the extension score, the respondent was asked to indicate the number of meetings personally attended in the county where an Extension staff member presented information; the number of times the individual talked on the telephone personally to a staff member; the number of problems personally discussed with a staff member; the number of publications received; the number of newsletters received; the number of newspaper articles read;

and the number of radio programs heard during the previous twelve months. An extension score was determined by summing the amount of participation in each category. This method was used by Hoiberg and Huffman (1978) in determining an extension score.

In development of the Seward County Data Collection Form the researcher was guided by two previous survey instruments. The first instrument developed by Groves (1978) was used, in part, to guide the researcher in developing questions pertaining to demographic data such as, place of residence, age, sex, and education. The validity of Groves instrument was assessed with the aid of a panel of experts. Reliability of the instrument was evaluated primarily through the pilot test. Pilot test questions were closely examined for skewness, skipped items, and respondents comments.

The second instrument was developed by two Iowa State University researchers, Eric Hoiberg, Assistant Professor of Sociology and Wallace Huffman, Assistant Professor of Economics. The instrument was used to collect data for a joint project entitled "The Iowa Family Farm Research Project" in 1976. This particular instrument was used to develop the researchers' questions pertaining to use and nonuse of the Seward County Extension Service. The basic format of the question as developed by Hoiberg and Huffman was utilized.

Suggested changes by Dr. Hoiberg to estimate the number of meetings attended, personal contacts with the staff, number of publications received, newsletters received, newspaper articles read and radio programs heard were incorporated into the researcher's questionnaire. The reliability of the Hoiberg and Huffman questionnaire was not determined since the particular question obtained responses from youth, men and women. The validity for each of their questions was determined through the use of a panel of experts.

#### Pre-testing the data collection form

In October, 1980 the data collection form was pre-tested by interviewing five individuals in Story County, Iowa. The assumption was made that individuals in Story County, Iowa and Seward County, Nebraska were not significantly different in their ability to understand and respond to the instrument. At the conclusion of the pre-testing phase of the study, the following comments and remarks were received from the participants: One lady refused to give her age, she felt the question should be discarded or changed to age groupings. Two individuals had some difficulty with the column heading on the questions pertaining to the preference of skill development and acquiring of knowledge. The participants reacted with suggestions for word changes to add greater clarity and understanding to the questions. All other questions in the questionnaire were easily understood by the

participants. Therefore, findings at the conclusion of the pre-resting were: Data collection form was easily understood by three respondents and only slightly confusing on two questions by two respondents. After pretesting the instrument, the researcher's advisor reviewed the changed questionnaire and it was determined that the information obtained by the instrument would be valid. That is, as viewed by an expert in this area, the instrument appeared to be measuring what it purported to measure.

The Human Subjects Committee at Iowa State University reviewed the researchers instrument and approved its use in collecting data for the study (see Appendix F).

#### Data Collection Procedures

The data for this study involved the use of two data collection instruments. The first consisted of a mailed questionnaire with 58 Likert-type questions (see Appendix A), and secondly, a personal interview to complete a data collection form that consisted of 10 additional questions (see Appendix B).

#### Training session

The study involved obtaining the needed data from Seward County, Nebraska. Since time and distance became a factor in the data collection process, the researcher obtained assistance from three University of Nebraska graduate students from the Department of Vocational Education. The

individuals were hired to assist in the data collection process. A half-day training session was held at the University of Nebraska one week prior to the beginning of the interviews. The session consisted of discussing the following topics: purpose of the study, the letter of transmittal; the use of the interview contact form; the use of the telephone contact form; scheduling the farm or home visit; the self-directed learning readiness scale; the data collection form; prepared sheets with names, addresses and telephone numbers of individuals in the sample; procedures to follow and special instructions. To aid the interviewers in gathering more accurate data it was necessary for them to become somewhat familiar with various aspects of the Seward County Extension Service program. The researcher received from the Seward County Extension Service such things as a list of all activities and events conducted in the county, names of newspapers receiving County Extension news items, the radio stations in the area that aired programs made by staff members, types of news articles written and radio programs made, the names of all staff members and their official titles. This information was presented and discussed with the interviewers. The information aided the interviewers in probing the participants' memory to help recall any participation in the activities and events of the Seward

County Extension Service during the previous year.

The process

From the prepared list of householders, the odd numbered residences were selected to be represented by males, and the even numbered residences by females. The researcher mailed a questionnaire and a letter of transmittal (see Appendix C) to the first 125 residences on the list. The names of individuals who were known not to be in the county were excluded from the mailing. Six days after the mailing an interviewer called each person to explain the purpose to the study and how the information was to be used. Participation was then requested. Upon agreeing to be interviewed, a time, date and place was scheduled at the interviewees' convenience. Interviewers had a "telephone contact sheet" to aid in setting up the interview (see Appendix D), and an interview schedule form (see Appendix E).

At the end of the first day the interviewers met to discuss the first day's activities and any problems or procedures that were ineffective. None were identified and no changes were made in the interview or data collection process. Individuals who refused to be interviewed were thanked and the person next on the alternate list was sent a letter of transmittal, a questionnaire and telephoned for an interview. Every individual who was mailed a letter and a questionnaire was contacted for participation. By the end of the week, a



total of 77 people participated in the study.

### Conducting the interview

Appointments were made with each individual who agreed to be interviewed. Interviews were conducted in the interviewees' home, place of business or place of employment. The average interview required 10-15 minutes. However, if the mailed questionnaire was not completed upon arrival, the interview required 30 to 45 minutes. Preplanning through telephone contacts allowed for the extra time to be scheduled by the interviewer.

Upon arriving at the interviewees' designated location, the interviewer tried to establish a relaxed and trusting atmosphere. The purpose of the study was reexplained. It was reaffirmed that anonymity was guaranteed, that names would not be used in reporting the data collected, and that the data collection form would be destroyed after the data were transferred to computer cards. Also, all questions were answered prior to the interview.

The first part of the interview data collection form pertained to obtaining demographic data on place of residence, age of the respondent, sex and education level. Individuals were asked to indicate any electronic devices that were in the home that could be used for educational purposes, such as cable television, regular television, radio,

telephone, mini-computer, tape recorder, record player and home video or disk recorder. These items were of interest for developing extension programs that could be taken home and utilized with home equipment.

The interviewees were asked to respond to the method of learning now used and preferred in developing a skill, and the method of learning now used and preferred in acquiring knowledge. When the questions were asked, the respondents were handed a sheet of paper showing the questions being asked. This allowed the individual to follow along as the questions were asked and aided in their response.

A series of questions were asked to the interviewees' on their use of the Seward County Extension Service. The information secured earlier from the Seward County Extension Service about the county program aided the interviewers in refreshing the individuals' memories. Indicating the names of the staff members, the activities or events helped the individual in remembering the participation or non-participation in the program.

At the conclusion of the interview the interviewer thanked the individual for participating in the study. They were reminded that the data would be made available to the Seward County Extension Service for use in the County program.

### Research Questions

The questions derived for this survey study are from two major sources. First, the study has an underlying premise that individuals who use the Cooperative Extension Service are self-directed in their learning. Extension being a voluntary informational organization causes the individual to make an effort to avail him or herself to the service and information. Secondly, the review of literature does not provide a large body of knowledge specifically pertaining to the self-directedness of an individual and the use of the Extension Service. However, implications can be drawn from studies that show the characteristics of individuals using the Extension Service and methods used in their learning.

- I. Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of place of residence?
- II. Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of age?
- III. Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of sex?

- IV. Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of level of education?
- V. What percent of the homes have electronic devices available for educational purposes?
- VI. Is there a significant difference between the current satisfaction level in the method of learning now used to develop a skill and the preferred level of satisfaction?
- VII. In seeking information to develop a skill, what is the rank order of the discrepancy between what is currently utilized and what that individual prefers as it relates to learning methods?
- VIII. Is there a significant difference between the current satisfaction level in the method of learning now used to acquire knowledge and the preferred level of satisfaction?
- IX. In seeking information to acquire knowledge, what is the rank order of the discrepancy between what is currently utilized and what that individual prefers as it relates to learning methods?

- X. What is the relationship between an individual's self-directed learning readiness score and the individual's extension participation score?
- XI. Are individuals who use the Seward County Extension Service more self-directed than individuals who do not use the Seward County Extension Service?
- XII. Can one predict an extension participation score for individuals using the Seward County Extension Service if one knows the place of residence, age, sex and level of education?
- XIII. Can one predict the self-directed learning readiness score of individuals using the Seward County Extension Service if one knows the place of residence, age, sex and level of education?
- XIV. Can one predict the self-directed learning readiness score of individuals using the Seward County Extension Service if one knows the number of meetings attended, telephone calls to the staff, personal visits with the staff, number of publications received, number of newsletters received, newspaper articles read and the number of radio programs heard?

### Data Analysis

Analysis of the data will be completed by using the Statistical Package for Social Science (SPSS) (Nie, Hull, Jenkins, Steinbrenner, and Brent, 1975), and the Iowa State University computer facilities.

A one-way analysis of variance will be used to provide data to answer questions (I, II, and IV) to describe the relationship between the respondents place of residence, age, level of education and the degree of self-directedness.

Frequency counts and percentages are to be utilized on question (V) to describe the various electronic educational devices in the homes that could be used for educational purposes. This procedure will also be used on questions (VII and IX) to describe and rank order the methods of learning now used and preferred in developing a skill and acquiring knowledge.

T-tests will be used on the following questions: question (III) to determine if sex of the respondent is significantly related to self-directedness; questions (VI and VIII) to determine if there is a significant difference between the methods now used and preferred in learning when an individual needs information to learn how to develop a skill and knowledge; question (XI) to determine if individuals who use the Seward County Extension Service are more self-directed than those

individuals who do not use the Seward County Extension Service.

A correlation will be used on question (X) to determine if there is a relationship between the self-directed learning readiness score and the extension score.

Multiple regression will be utilized to analyze questions (XII and XIII) to determine an equation to predict the self-directed learning readiness score and an extension score on the basis of the respondents place of residence, age, sex, and level of education. Question (XIV) will be analyzed by a multiple regression to determine an equation to predict the self-directed learning readiness score on the basis of the number of meetings attended, telephone calls to the staff, personal visits with the staff, number of publications received, number of newsletters received, newspaper articles read and the number of radio programs heard.

#### Summary

The survey methodology used in the study will aid the researcher in analyzing the results by parametric and non-parametric statistical procedures.

A computer program selected from 5042 families a primary list of 100 family residences and an alternate 100 family residences to be used in the study. The mean educational level was between high school, but less than a

bachelor's degree; the average age of the respondent was 46.0 years; and over 66 percent resided in cities.

Data for the study were collected in Seward County, Nebraska. Interviewers were hired and trained by the researcher. The process and procedures were carefully worked out to insure accurate data collection. Data were collected during a one-week period in November, 1980.

To obtain the data needed for the study, two data collection instruments were used. The Guglielmino Self-Directed Learning Readiness Scale was used to measure the degree of self-directedness within the individual. The Seward County Data Collection Form was developed by the researcher and used to obtain demographic data about the individual, information on learning methods used and preferred, and the degree of use of an Extension Service program. To properly analyze the survey study, various analytical techniques are also utilized. Techniques such as, one-way analysis of variance, t-tests, correlation, multiple regress and breakdown.



## CHAPTER IV. PRESENTATION AND DISCUSSION OF FINDINGS

### Introduction

This chapter presents the results of the study. A presentation of the self-directed learning readiness score is presented, followed by a discussion and data presentation in regard to each of the research questions. With each question the inferential statistics are presented first, followed by the descriptive statistics.

### Self-directed Learning Readiness Score

To gain more understanding of self-directed learning as it was measured in this study, the following data and tables were prepared. Table 5 presents the degree of self-directedness of individuals in Seward County, Nebraska. The degree of self-directedness is based upon a suggested score breakdown by Guglielmino (1977). Following her suggestion, individuals in this study who received a score between 168 and 209 are rated "low" in their degree of self-directedness; scores between 212 and 232 indicate a "medium" rating in degree of self-directedness; and scores between 233 and 264 indicate a rating of "high" in degree of self-directedness. The study revealed that 23.4 percent of the respondents rated "low," 32.5 percent rated "medium," and 44.1 percent were

Table 5. Degree of self-directedness of individuals in Seward County, Nebraska

Item	Degree of Self-directedness			
	Low	Medium	High	TOTAL
Number of respondents	18	25	34	77
Percent	23.4	32.5	44.1	100.0

rated "high" in their degree of self-directedness in Seward County.

Table 6 presents correlations between the total self-directed learning readiness score obtained by the respondents and the eight factor scores to measure sub-segments of self-directedness within the individuals. The correlation coefficients reveal that a highly significant relationship exists between each of the eight factors and the total score. Also, presented in the table are correlational results of Sabbaghian (1979), who studied adult students at Iowa State University and found the same relationship existed except for the factor of "acceptance or responsibility for one's own learning." It would appear that individuals in Seward County show a stronger relationship between their total self-directedness score on the acceptance of the responsibility for their own learning than those students in the Sabbaghian study. The reader is cautioned that no causal relationship is implied by data presented in the table.

Table 6. Correlation coefficients between total and self-directed learning and its eight factors

Factors	Correlation Coefficients	
	Seward study	Iowa State study
Love of learning	0.870**	0.901**
Self-concept as an effective independent learner	0.740**	0.807**
Tolerance of risk, ambiguity and complexity in learning	0.622*	0.766**
Creativity	0.743**	0.870**
View of learning as a lifelong beneficial process	0.687**	0.807**
Initiative in learning	0.616**	0.804**
Self-understanding	0.782**	0.831**
Acceptance of responsibility for one's own learning	0.321**	0.158

\*\*Probability < .01.

A comparison of four groups of individuals studied in relation to their degree of self-directedness is shown in Table 7. The data reveal that on the average, adults in Seward County, Nebraska are lower in their degree of self-directedness when compared to the other groups. Sabbaghian

Table 7. Comparison of groups studied in relation to their degree of self-directedness

Groups studied	Number	Mean	Standard deviation	Range score
Adults in Seward County, Nebraska	77	226.3	22.7	168-264
Undergraduate adults at Iowa State University	77	229.1	24.1	157-276
Graduate students at University of Georgia	91	247.5	20.0	189-285
Faculty in College of Education, University of Georgia	185	246.8	17.2	184-284

(1979) found that undergraduate adult students at Iowa State University were lower in their degree of self-directedness when compared to graduate students at the University of Georgia and faculty members in the College of Education at the University of Georgia. Guglielmino (1977) reported that faculty members in the College of Education at the University of Georgia were lower in their degree of self-direction than graduate students at the same institution.

To determine if there was a significant difference between the means of the four groups, an analysis (ANOVA) was preformed. As shown in Table 8, a highly significant F value of 30.58 was found. To compare the mean differences, a Fishers

Table 8. Analysis of variance on group means of previous studies to determine the degree of self-directedness

Source	df	Sum of squares	Mean squares	F-ratio
Self-directedness	3	37,244.61	12,414.80	30.58**
Error	426	172,945.84	405.98	
TOTAL	429	210,190.45		

\*\* Probability < .01.

"Least Significant Differences" test of significance was utilized. The results, shown in Table 9, indicate that there were no significant differences between the degree of self-directedness of individual adults in Seward County, Nebraska when compared to undergraduate adult students at Iowa State University nor between graduate students at the University of Georgia when compared to the faculty in the College of Education at the University of Georgia. A highly significant difference was found in the degree of self-directedness in the following instances: (1) when adults in Seward County, Nebraska were compared to the faculty in the College of Education at the University of Georgia; (2) when adults in Seward County, Nebraska are compared to the graduate students at the University of

Table 9. Application of Fishers least significant difference test on the degree of self-directedness between four self-directed studies

Studies	Undergraduate adults at Iowa State University	Graduate students at University of Georgia	Faculty in College of Education, University of Georgia
Adults in Seward County, Nebraska	2.8	21.2**	20.5**
Undergraduate adults at Iowa State University		18.4**	17.7**
Graduate students at University of Georgia			0.7

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\*\* Probability < .01.

Georgia; (3) when university adult students at Iowa State University were compared to faculty in the College of Education at the University of Georgia; (4) and when undergraduate adult students at Iowa State University were compared to the graduate students at the University of Georgia. In all instances, the graduate students at the University of Georgia and the faculty in the College of Education at the University of Georgia were significantly

more self-directed than adults in Seward County, Nebraska and the undergraduate adult students at Iowa State University.

Self-directed learning readiness score, group mean analysis on single variables

Table 10 depicts the degree of self-directedness of the total sample categorized as to place of residence, age, level of education and sex. Also shown are the number of observations, percentage of the total population, and rank order based upon the self-directed learning readiness score.

The rankings for place of residence were: (1) rural nonfarm, (2) city, (3) rural farm. The rankings for age were: (1) age group 40 to 59, (2) age group 19 to 39, (3) age group 60 to 81. The rankings for education were: (1) bachelor's to doctorate degree, (2) high school, but less than a bachelor's degree, (3) less than a high school education. An ANOVA on education revealed a significant difference exists in this category. Individuals who have a high school education or beyond are significantly more self-directed than individuals with less education. Females tend to be more self-directed than males.

Based upon the means presented in this table, the most self-directed individuals in Seward County tend to be those who reside in rural nonfarm residences; are in age group 40 to 59; have between a bachelor's and a doctorate degree; and

Table 10. Total population group means of place of residence, age, level of education and sex on degree of self-directedness

Variable		Self-directedness		
		Rural	Rural nonfarm	City
Place of residence	Mean	219.9	236.0	227.7
	Number	20.0	6.0	51.0
	Percent	26.0	8.0	66.0
	Rank Order	3	1	2
Age		Age (19-39)	Age (40-59)	Age (60-81)
	Mean	225.6	229.3	222.3
	Number	33.0	28.0	16.0
	Percent	43.0	36.3	20.7
	Rank Order	2	1	3
Education		Less than high school	High school less than Bachelor's	Bachelor's to Doctorate
	Mean	212.0	227.8*	233.7*
	Number	14.0	45.0	18.0
	Percent	18.2	58.4	23.4
	Rank Order	3	2	1
Sex		Male	Female	
	Mean	224.2	228.8	
	Number	42.0	35.0	
	Percent	55.0	45.0	
	Rank Order	2	1	

\* Probability .05.

are female. The least self-directed individuals in Seward County tend to be those who reside in rural farm residences; are in the age group 60 to 81 years of age; have less than a high school education; and are males.



Extension participation score analysis on a single variable

Table 11 depicts the means of the degree of Extension participation of the total sample categorized by place of residence, age, level of education, and sex. Also shown are the number of observations, percentage of total population and rank order within categories based upon the extension participation score. The table reveals that the rank order of variables is as follows: The degree of participation for place of residence were: (1) rural farm, (2) rural nonfarm, (3) city. The degree of participation for age were: (1) age group 60 to 81 (2) age group 40 to 59, (3) age group 19 to 39. The ranking for degree of participation on education were: (1) a high school education, but less than a bachelor's degree, (2) education level between a bachelor's and doctorate degree, (3) those with less than a high school education. Females tend to have a higher degree of participation than males.

Based upon the extension score as a measure of the degree of participation, the most participative individuals in Seward County tend to be those who reside in a rural residence; are in the age group 60 to 81; have an educational level of high school, but less than a bachelor's degree; and are female. The least participative individuals in Seward County tend to be those who reside in the city, are in the age group 19 to 39; have an educational level of less than

Table 11. Total population group means of place of residence, age, level of education and sex on participation in an extension program

Variables		Extension participation		
		Rural	Rural nonfarm	City
Place of residence	Mean	49.7	38.5	27.6
	Number	20.0	6.0	51.0
	Percent	26.0	7.8	66.2
	Rank Order	1	2	3
		Age (19-39)	Age (40-59)	Age (60-81)
Age	Mean	31.4	35.8	37.3
	Number	33.0	28.0	16.0
	Percent	43.3	36.3	20.7
	Rank Order	1 3	2	3
		Less than High School	High School less than Bachelor's	Bachelor's to Doctorate
Education	Mean	26.3	39.2	28.0
	Number	14.0	45.0	18.0
	Percent	18.2	58.4	23.4
	Rank Order	3	1	2
		Male	Female	
Sex	Mean	26.6	43.3	
	Number	42.0	35.0	
	Percent	55.0	45.0	
	Rank Order	2	1	

high school; and are males.

Individual participation in Seward County Extension Service

Meetings are one of the major methods of presenting information by extension staff. However, the data in Table 12 reveal that the number of people actually utilizing meetings as a source of information was comparatively low. Data reveal that more information is being provided by 4-H club leaders than other staff at county level meetings in Seward County.

Table 12. Personal attendance at meetings in Seward County where staff made presentations during the previous twelve months

Category	Attendance		Nonattendance	
	Number of individuals	%	Number of individuals	%
Meetings with County Agent	7	9.1	70	90.9
Meetings with 4-H Aide	9	11.7	68	88.3
Meetings with Specialist	8	10.4	69	89.6
Meetings with 4-H Leader	10	13.0	67	87.0
Meetings with Home Economist	5	6.5	72	93.5

Individual participation of the Seward County Extension Service educational program is presented in Table 13. An ordering from most used to least used source of information is as follows: 66.2 percent read newspaper articles, 51.9

Table 13. Amount of individual participation by respondents of the Seward County Extension Service during the previous 12 months

Category	<u>Participation</u>		Total range of participation	<u>Nonparticipation</u>	
	<u>Number</u> of individuals	%		<u>Number</u> of individuals	%
Number of meetings attended	21	27.3	0-9	56	72.7
Telephone calls to staff	23	29.9	0-24	54	70.1
Personal visits with staff	12	15.6	0-12	65	84.4
Publications received	37	48.1	0-30	40	51.9
Newsletters received	40	51.9	0-48	37	48.1
Newspaper articles read	51	66.2	0-208	26	33.8
Radio programs heard	18	23.4	0-52	59	76.6

percent read newsletters; 48.1 percent receive and read state/or federal publications; 29.9 telephoned staff; 27.3 percent attended county meetings; 23.4 percent heard radio programs and 15.6 percent visited personally with the staff member. Similar findings were reported by Baker (1955), Verner (1967), Hoiberg and Huffman (1978), Karlberg (1980).

#### Total sample use of the Seward County Extension Service

Total use of the Seward County Extension Service by the respondents for the previous 12 month period is shown in Table 14. Data reveal that eight individuals did not use the Seward County Extension Service to obtain information for learning. These individuals were carefully questioned, but could not recall using any of the sources listed on the questionnaire. A similar situation was reported by Tough (1971) in determining the amounts of learning accomplished by adults. Having no contact with the Seward County Extension Service, these individuals were classified as "nonusers." Individuals who had extension scores on the Seward County Data Collection Form of 1 to 38 were classified as "low users." Individuals who had extension scores of 41 to 74 were classified as "medium users" and individuals who had scores of 75 to 306 were classified as "high users" of

Table 14. Total use of the Seward County Extension Service by respondents during the previous 12 month period

Category	Number	Percent	Score Range
Nonuse	8	10.4	0
Low use	42	54.5	1-38
Medium use	19	24.9	41-74
High use	8	10.4	75-306

the Seward County Extension Service.

Individuals who were classified as "low users" of the Seward County Extension Service accounted for 54.5 percent of the respondents. Those classified as "medium users" accounted for 24.9 percent and those classified as "non-users" or "high users" accounted for 10.4 percent, respectively. A total of 89.6 percent of the respondents had some contact with the Seward County Extension Service during the previous 12 months of the study. The contacts ranged from 1 to 306. Similar participation findings were reported by Forest and Marshall (1977) and Karlberg (1980). Other researchers who found "high use" of extension service, but pertaining to "specific programs" were Kroetz and Cole (1978), Forest and Lonergan (1974) and Slocum (1957).

## Question I

Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of place of residence?

A one-way analysis of variance was used to determine if there was a difference in the degree of self-directedness when the individuals were categorized on the basis of place of residence. Table 15 shows that no significant differences were found.

Table 15. One-way analysis of variance for self-directed learning classified by place of residence

Source of variance	df	Sums of squares	Mean squares	F-ratio
Place of residence	2	1,476.28	738.14	1.45
Error	74	37,695.34	505.40	
TOTAL	76	39,171.61		

Group means, standard deviations, number of observations and percent of total number of observations are shown in Table 16. The table indicates that rural residents had a mean of 219.9; rural nonfarm residents had a mean of 236.0; and city residents had a mean of 227.7. The means of the three groups are similar and therefore not significantly different from one another. It appears that self-directedness is not a function of where one lives in

Table 16. Group means, standard deviations, number of observations and percent of total number of observations by place of residence

Variables	Rural	Rural nonfarm	City
Group mean	219.9	236.0	227.7
Group standard deviations	21.5	20.4	23.2
Number of observations	20.0	6.0	51.0
Percent of total number of observations	26.0	7.8	66.2

the county. It also appears that the smallest percent of the respondents live in rural nonfarm residences and are slightly more self-directed than other individuals. This tendency is not statistically significant.

#### Question II

Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of age?

A one-way analysis of variance was used to determine if there were differences in the degree of self-directedness when the individuals were categorized on the basis of age. Table 17 shows that a nonsignificant F-value of 0.502 was found. Age is not a factor in determining the



Table 17. One-way analysis of variance for self-directed learning related to age

Source of variation	df	Sums of squares	Mean squares	F-ratio
Age	2	524.59	262.29	0.502
Error	74	38,647.08	522.26	
TOTAL	76	39,171.67		

individual's degree of self-directedness in learning in Seward County.

Table 18 shows the group means, standard deviations, number of observations, and percent of respondents within each group. This table reveals that individuals in age category 40 to 59 are slightly more self-directed in their learning than individuals in other age categories, but

Table 18. Group means, standard deviations, number of observations and percent of the total number of respondents for self-directed learning related to age

Variables	Early Adulthood (19-39)	Middle Age (40-59)	Late Maturity (60-81)
Group means	225.6	229.3	222.3
Group standard deviations	21.8	23.9	23.3
Number of observations	33.0	28.0	16.0
Percent of observations	42.9	36.0	20.8

not significantly so.

Researchers who are in agreement with these findings are: Forest and Marshall (1977), and Verner and Newberry (1965) who reported that high participation in the Extension Service took place among individuals in the "middle age" group. Researchers who found differently were: Hiemstra (1979), who reported that self-directed adults were younger in age, and Gross (1977), who found high participation in Extension programs from the younger and older age groups. He concluded that Extension programming was not reaching the middle age group.

Ages were grouped as "early adulthood," ages 19 to 39; "middle age," ages 40 to 59; and "late maturity," ages 60 to 81. The percent of individuals in each of these categories for this study were: 42.9 percent, 36.6 percent, and 20.8 percent, respectively. Data revealed that the mean age for respondents was 46.0 years with a standard deviation of 15.9.

Findings of Rockwell and Vawser (1979) indicated the average person seeking information from the Extension Service was in the age group 18 to 40. Karlberg (1980) found individuals seeking information from the Extension Service to be in the age group 41 to 60.

## Question III

Is there a difference in the degree of self-directedness when individuals are categorized on the basis of sex?

To determine if sex of respondent was a factor in the degree of self-directedness, a t-test was used to analyze the mean difference between the self-directed score of males and females. Table 19 shows that no significant difference was found between the two sexes on this variable. Sex of respondent is not a factor in determining the degree of self-directedness. A comparison of the two means reveals that females are slightly, but not significantly more self-directed than males. Sabbaghian (1979) found the same results in her study. However, she found a significant interaction involving self-directed score when sex was combined with other variables. All interactions were found to be nonsignificant.

Table 19. T-test comparison of sex and degree of self-directedness.

Variables		Number of observations	Mean	Standard deviations	t-value
Sex	Males	42.0	224.21	23.73	-0.88
	Females	35.0	228.77	21.48	

## Question IV

Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of level of education?

A one-way analysis of variance was used to determine the degree of self-directedness when the individuals were categorized on the basis of level of education. The analysis revealed a significant F value of 4.15 as shown in Table 20. Education is a statistically significant factor when studying the degree of self-directedness in learning.

Table 20. One-way analysis of variance for self-directed learning related to the level of education

Source of variance	df	Sums of squares	Mean squares	F-ratio
Education	2	3,949.89	1,974.95	4.15*
Error	74	35,221.82	475.97	
TOTAL	76	39,171.71		

\*Probability < .05.

Table 21 shows the Duncan test of significance on the means of each educational group. Individuals having an educational level of less than high school had a mean of 212.0, those with an educational level of high school, but less than a bachelor's degree had a mean of 227.8 and those with an educational level of bachelor to doctorate had a mean of

233.7. The means of individuals with a high school education, but less than a bachelor's degree, and those with a bachelor's to doctorate degree were significantly different than those individuals with less than a high school education. However, individuals with a high school education, but less than a bachelor's degree and those with a bachelor's to doctorate degree are not significantly different from one another. Similar results were reported by Hiemstra (1978) in identifying "success" characteristics in self-directed learners. These results are contrary to the findings of Kratz (1978) and Peters and Gordon (1974), who found that as education levels increased in adults, the degree of self-directedness decreased.

Data reveal that 14 individuals or 18.2 percent of the individuals had less than a high school education; 45 individuals or 58.5 percent of the individuals had an educational level of a high school graduate but less than a bachelor's degree; and 18 individuals or 23.4 percent of the individuals had a bachelor's to a doctorate degree. The average educational level of the respondents was slightly higher than a high school education, but less than a bachelor's degree. Similar results were found by Karlberg and Cranfill (1980). Rockwell and Vawser (1979) found similar results for individuals with educational levels less than a bachelor's degree, but the number of individuals

with a bachelor's to a doctorate degree was less than found in this study and the Karlberg and Cranfill (1980) study.

Table 21. Group means for Duncan Test of significance for self-directed learning related to level of education

Variable	Less than High School diploma	High School diploma but less than a Bachelor's degree	Bachelor's to Doctorate degree
Group	212.0	<u>227.8</u>	<u>233.7<sup>a</sup></u>

<sup>a</sup>Any means which do not have a common line under them are significantly different from one another.

#### Question V

What percent of the homes have electronic devices available for educational purposes?

Table 22 shows the frequency and percentage of various electronic devices available in the homes for educational purposes. The table reveals that all homes in the sample had regular television, radio and telephones. Record players were available in 90.9 percent of the homes while tape recorders were available in 64.9 percent of the homes. Cable television was only available to residents of the city of Seward. The data show that a small percent of

the total sample (18.2 percent) had cable television in the home. Mini-computers were found in 2.6 percent of the homes while home video or disk recorders were found in 3.9 percent of the residences.

Table 22. Electronic educational devices available in the home

Device	Frequency (number)		Percentage in homes	
	Yes	No	Yes	No
Cable television	14	63	18.2	81.8
Regular television	77	0	100.0	0
Radio	77	0	100.0	0
Telephone	77	0	100.0	0
Mini-computer	2	75	2.6	97.4
Tape recorder	50	27	64.9	35.1
Record player	70	7	90.9	9.1
Home video or disk recorder	3	74	3.9	96.1

#### Question VI

Is there a significant difference between the current satisfaction level in the method of learning now used to develop a skill and the preferred level of satisfaction?

T-tests were used to determine if a significant difference existed between the current satisfaction level of

the method of learning being used to develop a skill and the satisfaction level preferred. As shown in Table 23, a significant difference between satisfaction levels was found for two of the learning methods. These methods were small group workshops, demonstrations, field trips, tours, discussion groups for one grouping, and independent study (correspondence course) for the second group. In each of these instances, the individuals preferred greater use of the two methods than was currently being utilized.

Based upon the degree of use and/or preference, it was found that small group workshops, demonstrations, field trips, tours and discussion groups were being used "occasionally" and individuals preferred to use this method "fairly often." Independent study (correspondence course) was used "seldom" and individuals preferred to use this method "once in a while." The use and preference of large group meetings, classes and lectures was being used at the preferred level of "occasionally." Reading (printed material) and face to face or telephone calls was being used at the preferred level of "fairly often," while mass communications was being used and preferred at the level of "once in a while."



For the two learning methods where significant differences were found in this study, similar results were reported by DeCrow (1974), Pugni (1965), and Marshall (1976). Researchers reporting that the most preferred learning method was "reading" were Nolan and Lasley (1979), Hoiberg and Huffman (1978), McKenna and Nixon (1979) and Hiemstra (1975).

Table 23. Differences between learning methods now used and those preferred to develop a skill

Methods of learning	Mean		Mean difference	t-value	Rank order on mean differences
	Now	Prefer			
Large group meetings, classes, lectures	2.05	2.01	0.04	0.19	4.5
Small group workshops, demonstrations, field trips, tours, discussion groups	2.78	3.66	-0.88	-5.12**	1
Face to face or telephone calls	3.64	3.56	0.08	0.47	3
Reading (printed material)	3.82	3.78	0.04	0.33	4.5
Mass communication (radio, television, computers)	2.32	2.29	0.03	0.19	6
Independent study (correspondence course)	1.04	1.77	-0.73	-3.81**	2

\*\*Probability < .01.

## Question VII

In seeking information to develop a skill, what is the rank order of the discrepancy between what is currently utilized and what that individual prefers as it relates to learning methods?

To determine the discrepancy between the learning methods "now used" or "preferred to be used in developing a skill, the means of these two groups were subtracted. Results of the mean differences are shown in Table 23. The table also gives a rank ordering of these differences. Learning methods that individuals preferred to use more in their learning ranking high were: small group workshops, demonstrations, field trips, tours, discussion groups and independent study (correspondence course). Learning methods that individuals did not wish to change, but wished to retain in the same amount of use were: face to face or telephone calls ranking third; reading (printed material); large group meetings, classes, lectures tied for fourth place; and mass communication (radio, television, computers) ranked last.

## Question VIII

Is there a significant difference between the current satisfaction level in the method of learning now used to acquire knowledge and the preferred level of satisfaction?

T-tests were used to determine if a significant difference existed between the current satisfaction level of the method of learning used to acquire knowledge and the satisfaction level the individual preferred with that method. As shown in Table 24, significant differences were found in three learning methods. These were independent study (correspondence course) as one method, small group workshops, demonstrations, field trips, tours, discussion groups as a second method; and face to face or telephone calls as a third method. In each instance, the individuals preferred greater use of the learning method than was currently being used.

In comparing the degree of preference between learning methods, it was found that: independent study (correspondence course) was being used "seldom" and individuals preferred to use the learning method "fairly often." Small group workshops, demonstrations, field trips, tours, and discussion groups were being used "sometimes" and individuals preferred to use the method "occasionally." Face to face or telephone calls were being used "occasionally" and individuals preferred to use the method "fairly often."

Table 24. Differences between learning methods now used and those preferred to acquire knowledge

Method of learning	Mean		Mean differ- ences	t-value	Rank order on mean differ- ences
	Now	Prefer			
Large group meetings, classes, lectures	1.88	1.71	0.17	0.85	4
Small group work- shops, demonstra- tions, field trips, tours, discussion groups	2.79	3.35	-0.56	-3.01**	2
Face to face or telephone calls	3.48	3.79	-0.31	-2.10*	3
Reading (printed material)	4.00	3.91	0.09	1.07	5
Mass communication (radio, television, computers)	2.61	2.60	0.01	0.09	6
Independent study (correspondence course)	1.21	1.87	-0.66	-3.55**	1

\*Probability < .05.

\*\*Probability < .01.

Learning methods that individuals preferred to use less were: large group meetings, classes, lectures were being used "sometimes" and learners preferred to use the method "least." Reading was being used "fairly often" but individuals preferred to use the method only "occasionally." Mass communication was being used "occasionally" and

individuals preference was to use it only "occasionally."

Similar findings were reported by Forest and Lonergan (1974), Johnstone and Rivera (1965), and DeCrow (1974). Researchers reporting that the most preferred learning method was reading were Nolan and Lasley (1979), Hoiberg and Huffman (1978), McKenna and Nixon (1979), and Hiemstra (1975). Numerous other researchers could be cited.

#### Question IX

In seeking information to acquire knowledge, what is the rank order of the discrepancy between what is currently utilized and what that individual prefers as it relates to learning methods?

To determine the discrepancy between the learning methods "now used" or "preferred to be used" in acquiring knowledge, the means of the two groups were subtracted. Results of the mean differences are shown in Table 24. The table also gives a rank ordering of these differences. Learning methods that individuals preferred to use more in their learning were: independent study (correspondence course) ranking first; small group workshops, demonstrations, field trips, tours, discussion groups ranking second; and face to face or telephone calls ranking third.

Learning methods that individuals preferred to use less were: large group meetings, classes, and lectures ranked fourth; reading (printed material) ranked fifth; and

mass communication (radio, television, computers) ranked sixth.

#### Question X

What is the relationship between an individual's self-directed learning readiness score and the individual's extension participation score?

To determine if there was a meaningful relationship between an individual's self-directed learning readiness score and the extension participation score a Pearson product moment coefficient correlation was computed. A value of 0.04 was calculated. One can conclude that there is no significant relationship between the individuals' scores on their degree of self-directedness and their extension participation score. Data revealed that all self-directed learning readiness scores ranged from 168 to 264 with an average score of 226.3. The extension participation scores ranged in value from zero to 306 with an average score of 34.2. A scattergram would depict a correlation of 0.04 almost circular with individual scores scattered throughout with no apparent relationship existing.

#### Question XI

Are individuals who use the Seward County Extension Service more self-directed than individuals who do not use the Seward County Extension Service?

To analyze if individuals who use the Seward County Extension Service are more self-directed as compared to individuals who do not use the service, a t-test was used to compare the means between users and nonusers. As shown in Table 25, no significant difference was found between the two groups. A comparison of the means indicates that individuals who use the Seward County Extension Service tend to be more self-directed than those individuals who do not use the Service, but this tendency is not significant.

Table 25. Self-directedness of individuals using the Seward County Extension Service

Variables	Number of observations	Mean	Standard deviation	t-value
Nonusers	8.0	214.75	30.90	-1.53
Users	69.0	227.62	21.46	

### Question XII

Can one predict the self-directed learning readiness score of individuals using the Seward County Extension Service if one knows the place of residence, age, sex and level of education?

A multiple regression technique was used to determine if place of residence, age, sex and level of education could be used as predictor variables of the self-directedness score. Table 26 shows that a significant F value of

Table 26. Stepwise regression analysis of place of residence, age, sex and level of education for self-directed learning readiness score

Variable	Simple R	Multiple R	Cumulative R square	F-ratio
Education	0.258	0.258	0.066	5.33*
Age	0.005	0.286	0.082	1.23
Sex	0.101	0.299	0.089	0.60
Residence	-0.064	0.305	0.093	0.33

\*Significant at 0.05.

5.33 was found for education. The amount of variance that could be accounted for between the variable education and predicted  $\hat{Y}$  score of self-directed learning was 6.6 percent. A prediction equation could be developed where  $\hat{Y} = 214.96 + 2.513 (X_1)$ . This equation predicts the "self-directed score"  $\hat{Y}$  from the independent variable education ( $X_1$ ). Knowing the individuals education score, one can predict the individuals self-directedness by replacing the amount of education score in place of ( $X_1$ ) and solving the equation for  $\hat{Y}$ . All other predictor variables were found to be nonsignificant contributors to the ability to predict self-directedness after education is utilized.

The reader is cautioned that the equation contains only one variable and accounts for only 6.6 percent of the



variance as shown by the R-squared for education. There is a high risk of error in the prediction. The greater the absolute value of R-squared, the more accurate the prediction.

### Question XIII

Can one predict the extension participation score of individuals using the Seward County Extension Service if one knows the place of residence, age, sex and level of education?

A multiple regression technique was used to determine if place of residence, age, sex and level of education could be used as predictor variables of an extension participation score. Table 27 shows that no significant predictors were found. A meaningful prediction equation for an extension participation score cannot be developed using these criteria.

Table 27. Stepwise regression analysis of place of residence, age, sex and level of education for predicting an extension score

Variable	Simple R	Multiple R	Cumulative R square	F-ratio
Sex	0.193	0.193	0.037	2.91
Education	-0.091	0.218	0.047	0.79
Age	0.080	0.221	0.049	0.12
Residence	0.000	0.000	0.000	0.00

All data on the variable "residence" have been reported as zero's. The contribution of this variable was so small and insignificant that it was not calculated in the stepwise regression procedure.

#### Question XIV

Can one predict the self-directed learning readiness score of individuals using the Seward County Extension Service if one knows the number of meetings attended, telephone calls to the staff, personal visits with the staff, number of publications received, number of newsletters received, newspaper articles read and the number of radio programs heard?

A multiple regression technique was used to determine if the predictor variables, number of meetings attended, telephone calls made to the staff, personal visits with the staff, number of publications received, number of newsletters received, number of newspaper articles read and the number of radio programs heard could be used to predict self-directedness score. Table 28 shows that no significant predictors existed within the independent variables and therefore, a meaningful prediction equation for self-directed learning readiness cannot be developed using these variables. All data on the variable "newspaper articles read" has been reported as zero's. The contribution of this variable was so small and insignificant that it was not calculated in the stepwise regression procedure.

Table 28. Stepwise regression analysis of the number of meetings attended, telephone calls to the staff, personal visits with the staff, number of publications received, number of newsletters received, newspaper articles read and number of radio programs heard for determining self-directedness score

Variables	Simple R	Multiple R	Cumulative R square	F-ratio
Publications received	0.073	0.073	0.005	0.403
Newsletters received	0.057	0.093	0.009	0.241
Radio programs heard	-0.025	0.110	0.012	0.256
Personal visits with staff	0.046	0.114	0.013	0.062
Telephone calls to staff	0.020	0.121	0.015	0.117
Meetings attended	0.031	0.121	0.015	0.013
Newspaper articles read	0.000	0.000	0.000	0.000

### Summary

This chapter provides an analysis of the research questions which were posed at the beginning of this study. Data have been analyzed by using inferential statistical procedures such as analysis of variance, t-tests, correlation and multiple regression. Other data in the study have been presented utilizing descriptive statistical procedures such as reporting number of individuals, means, standard deviations, percentages, etc.

## CHAPTER V. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

### Introduction

The objectives of this chapter are to present the conclusions drawn from this study, discuss their implications, and recommend further research. First, a summary of the study's purpose and methodology will be presented, followed by the major findings of the study, the conclusions, implications, and concluding with the recommendations for further study.

### Purpose and Methodology

The purposes of this study were to describe and analyze from a selected sample of adults their degree of self-directedness as it applied to a County Extension program; to determine what methods of learning are now being used and/or preferred when seeking information to develop a skill and to acquire knowledge; to predict the self-directedness of an individual using a County Extension program based on selected demographic variables; to determine if one can predict an extension participation score for individuals using an extension program; to determine what electronic devices are in the home that could be used for educational purposes; and to learn more about the self-

directed learning readiness score.

Relevant literature and research findings related to self-directed learning, learning methods and participation in extension programs were reviewed to support the need and overall rationale for this study. An underlying basis for self-directedness is from the concept of andragogy, which is defined as the art and science of helping adults learn.

Two instruments were used to collect data for this study. The self-directed learning readiness score developed by L. M. Guglielmino (1977) was used to collect data to determine the self-directed learning readiness score of respondents in the sample. The instrument measured the following variables which define the degree of self-directedness: (1) love of learning; (2) self-concept as an effective, independent learner; (3) tolerance of risk, ambiguity, and complexity in learning; (4) creativity; (5) view of learning as a lifelong, beneficial process; (6) initiative in learning; (7) self-understanding; (8) acceptance of responsibility for one's own learning. The degree of adults' total self-directedness in learning was also determined.

The second instrument was the Seward County Data Collection Form developed by the researcher. This instrument was used to gather specific demographic data on the

respondents; on educational electronic devices in the home that could be used for educational purposes; and on methods of learning now used and preferred and participation in the Seward County Extension Service program.

The sample for this study was selected from 5042 family residences located within the boundaries of Seward County, Nebraska. To guarantee a random sampling of the 5042 family residences, the total number was used as "input" into a computer program which selected the random sample. Using the Seward telephone directory, telephone directories of surrounding towns listing individuals with Seward County addresses, and the county Town, Area and Map (TAM) book, the numbers from the computer printout sheet were matched with names to identify the sample. Out of 200 individuals selected, 48 were deceased, 45 could not be located, 24 refused to participate, 6 individuals were not contacted and 77 completed the questionnaire and interview.

The interviews were conducted by three interviewers and the author during the month of November 1980. An interviewer training session was held one week prior to beginning the interviews. The data were analyzed by using the statistical package for the social sciences (SPSS) computer program.

### Major Findings of the Study

Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of place of residence?

There is no significant difference where a person lives in Seward County when considering the person's degree of self-directedness. A comparison of means reveals that nonfarm residents comprise 7.8 percent of the sample and were slightly higher in their degree of self-directedness when compared to the other two groups. Rural individuals made up 26.0 percent of the sample and were lowest in their degree of self-directedness.

Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of age?

Age was found to be nonsignificant when considering the self-directedness of the individuals. Data reveal that 36.3 percent of the respondents were in the age group between 40 and 59 years of age. These individuals were slightly higher in their degree of self-directedness than the other groups. Those least self-directed were in age group 60 to 81 years of age and accounted for 20.7 percent of the respondents.

Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of sex?

Sex of respondent was found not to be a factor in determining the degree of self-directedness. Females were slightly higher in their degree of self-directedness than males. However, the differences were not significant. The sample consisted of 42 males and 35 females.

Is there a difference in the degree of self-directedness when the individuals are categorized on the basis of level of education?

The level of education was found to be significant at the .05 level of probability in identifying the degree of self-directedness within the individual. Individuals who had a high school education or beyond are significantly more self-directed in their learning than individuals with less education. Data reveal that the individuals are highly educated in the county. Individuals with a high school education, but less than a bachelor's degree accounted for 58.4 percent of the sample; 23.4 percent held bachelor's to doctorate degrees, while only 18.2 percent had less than a high school education. Those individuals who had a high school education or beyond accounted for 81.8 percent of the individuals in the sample.

A multiple analysis of variance revealed no significant interaction between the variables of place of residence, age, sex and level of education.

What percent of the homes have electronic devices available for educational purposes?



Respondents were asked to indicate if they had specific electronic educational devices in the home that could be used for educational purposes. All residences had regular television, radio and telephones; 90 percent of the residents had record players; 64.9 percent had tape recorders; 18.2 percent had cable television, however, cable television was available only in the city of Seward. Home video or disk recorders and mini-computers were found only in 3.9 and 2.6 percent of the homes, respectively.

Is there a significant difference between the current satisfaction level in the methods of learning now used to develop a skill and the preferred level of satisfaction?

A highly significant difference existed between the current satisfaction level of the method of learning being used to develop a skill and the satisfaction level preferred. The individuals preferred to make greater use of small group workshops, demonstrations, field trips, tours, discussion groups as a method. The learning method was being used "occasionally" and the preferred use was "fairly often." Independent study (correspondence course) was being used "seldom" and the preferred use was "once in a while." Learning methods that individuals did not wish to change, but retain the same level of use were: large group meetings, classes and lectures which were being used "occasionally"

and the preferred use was "occasionally." Reading (printed material) was being used "fairly often" and the preferred use was "fairly often." Face to face or telephone calls were being used "fairly often" and the preferred use was "fairly often." Mass communications (radio, television, computers) were being used "once in a while" and the preferred use was "once in a while."

In seeking information to develop a skill, what is the rank order of the discrepancy between what is currently utilized and what that individual prefers as it relates to learning methods?

In seeking information to develop a skill, individuals preferred to use learning methods in the following rank order: (1) small group workshops, demonstrations, field trips, tours, discussion groups; (2) independent study (correspondence course); (3) face-to-face or telephone calls; (4.5) reading (printed materials); (4.5) large group meetings, classes, lectures; (6) mass communication (radio, television, computers). The greatest preference of use for learning methods to develop a skill was for the first two learning methods listed above.

Is there a significant difference between the current satisfaction level in the method of learning now used to acquire knowledge and the preferred level of satisfaction?

A highly significant difference existed between the current satisfaction level in the method of learning used to acquire knowledge and the satisfaction level the individual prefers to reach in that method. A  $t$  value exceeded the .01 level of probability in two learning methods and the .05 level of probability in one learning method. Independent study (correspondence course) was being used "seldom" and the preference was "fairly often." Small group workshops, demonstrations, field trips, tours, discussion groups were being used "sometimes" and the preference was "occasionally." Face to face or telephone calls were being used "occasionally" and the preference was "fairly often." Large group meetings, classes and lectures were being used "sometimes" and the preference was "least." Reading (printed material) was being used "fairly often" and the preference was "occasionally." Mass communications (radio, television, computers) was being used "occasionally" and the preference was to use "occasionally."

In seeking information to acquire knowledge, what is the rank order of the discrepancy between what is currently utilized and what the individual prefers as it relates to learning methods?

In seeking information to acquire knowledge, individuals preferred to use learning methods in the following rank order: (1) independent study (correspondence course); (2) small group workshops, demonstrations, field trips,

tours, discussion groups; (3) face to face or telephone calls; (4) large group meetings, classes, lectures; (5) reading (printed material); and (6) mass communication (radio, television, computers). The greatest preference of use for learning methods to acquire knowledge was for the first three learning methods listed above.

What is the relationship between an individual's self-directed learning readiness score and the individual's extension participation score?

There is no significant relationship between the individual's self-directed learning readiness score and the extension participation score. The variables selected in determining the extension participation score cannot be used to indicate the degree of self-directedness of respondent.

Are individuals who use the Seward County Extension Service more self-directed than individuals who do not use the Seward County Extension Service?

The study did not reveal a significant difference between the individuals who use the Seward County Extension Service and those who do not in their degree of self-directedness. It was found that 10.4 percent of the individuals did not use the Seward County Extension Service while 89.6 percent had used the Seward County Extension Service as a source of information.

Can one predict the self-directed learning readiness score of individuals using the Seward County Extension Service if one knows the place of residence, age, sex and level of education?

The level of education was found to be the only significant (.05) level of probability variable in predicting the self-directed learning readiness score for individuals using the Seward County Extension Service. Individuals who had a high school education or beyond were significantly more self-directed than other individuals in using the Seward County Extension Service as a source of information in their learning.

Can one predict an extension participation score for individuals using the Seward County Extension Service if one knows the place of residence, age, sex and level of education?

One cannot predict the extension score by using the variables of place of residence, age, sex and level of education. Therefore, a meaningful prediction equation cannot be developed. Although not significant, sex was found to be the greatest contributor to predicting an extension participation score. This variable was followed by education, age and place of residence. Females, on the average, participated more in extension activities than did males.

Can one predict the self-directed learning readiness score of individuals using the Seward County Extension Service if one knows the number of meetings attended, telephone calls to the staff, personal visits with the staff, number of publications received, number of newsletters received, newspaper articles read and the number of radio programs heard?

One cannot predict the self-directed learning readiness score of individuals using the Seward County Extension

Service by using the selected variables. Therefore, a meaningful prediction equation cannot be developed. Although not significant, the number of publications received was found to be the greatest contributor of predicting a self-directed learning readiness score from the variables used. This variable was followed by the number of newsletters received, number of radio programs heard, personal visits to the staff, telephone calls to the staff, number of meetings attended, and the number of newspaper articles read.

### Conclusions

The conclusions of this study are drawn from the data presented. The conclusions are applicable only to the population within the boundaries of Seward County, Nebraska. However, the reader may be able to draw some generalizations applicable to other similar populations.

Individuals residing in Seward County are self-directed in their learning with 76.6 percent of the respondents in the "medium" to "high" degree of self-directedness. Only 23.4 percent were "low" in their self-directedness. Being "low" in self-directedness indicates some degree of self-directedness, but there is a tendency for individuals in this category to rely or become dependent upon others for guidance and direction in their learning.

Factors of place of residence, age, and sex are not related to the degree of self-directedness for the individuals in this study. Although not significant, the trend appeared to be that the most self-directed individuals in Seward County could be described as those who resided in rural nonfarm residences, are in the age group 40 to 59 years of age, had an educational level of bachelor's to doctorate degree and are female. On the average, the least self-directed individuals in Seward County could be described as those who reside in the city, are in the age group 60 to 81 years of age, had less than a high school education and are males.

The educational level of the individuals is an important factor in the degree of self-directedness. Individuals who had a high school education or beyond are significantly more self-directed than individuals who had less than a high school education. The more education one attains, the more self-directed the individual becomes in his or her learning.

All homes in Seward County had regular television, radio and telephones. The majority of homes had record players and tape recorders, while very few had cable television (city of Seward only), mini-computers and home video or disk recorders. There appears to be a sufficient variety of electronic devices presently located in the homes that

could be used for educational purposes to aid adults in their learning efforts.

The current level of satisfaction in the methods used when seeking information to develop a skill was at an unsatisfactory level. There was a preference for more use of small group workshops, demonstrations, field trips, tours, discussion groups as one method; and independent study (correspondence course) as another method. Individuals were satisfied with the level of use of large group meetings, classes and lectures; reading (printed material); face to face or telephone calls; and mass communications (radio, telephone, computers).

The current level of satisfaction in the methods used when seeking information to acquire knowledge was at an unsatisfactory level. There was a preference for more use of independent study (correspondence course); small group workshops, demonstrations, field trips, tours and discussion groups; and face to face or telephone calls. Individuals preferred less use of large group meetings, classes and lectures; reading (printed material); and the same level of use of mass communications (radio, television, computers).

An attempt to find other variables that could be used to predict the self-directedness within the individual failed. The variable of number of meetings attended, telephone calls to the staff, personal visits to the staff,



number of publications received, number of newsletters received, newspaper articles read and the number of radio programs heard cannot be used to determine self-directedness.

The data reveal that 89.6 percent of the sample used the Seward County Extension Service as a source of information in their learning. Therefore, it can be concluded, on the basis of the sample, that the Seward County Extension Service is used by a majority of the people in the county as a source of information for learning. On the average, females used the Seward County Extension Service slightly more than males.

The most used sources of information from the Seward County Extension Service were from reading newspaper articles, newsletters and state/federal publications.

Attending meetings to secure information was used infrequently by individuals in the sample. However, individuals who attended educational meetings received most of their educational information from 4-H club leaders.

In an attempt to develop a prediction equation to predict the self-directed learning readiness score of individuals using the Seward County Extension Service by using the variables of place of residence, age, sex and level of education failed, except for the variable education. Education being significantly related to self-directedness may

be used as a predictor. However, the predictor is not extremely reliable accounting for only 6.6 percent of the variance. There is a high probability of making an error in predicting self-directedness.

An attempt to predict an extension participation score using the variables of place of residence, age, sex and level of education failed. These variables were not related to extension participation.

Caution must be used when comparing individuals with a "wide range" of characteristics (Seward County Residents) and individuals with a "narrow range" of characteristics (Georgia college students and faculty). Results may easily be misinterpreted since individuals with a "wide range" of characteristics may conceivably be less self-directed than individuals with a "narrow range." More strength is added to the argument when the level of education has been repeatedly shown to be a significant factor in self-directedness. That is, the more education one attains, the more self-directing the individual becomes. A further conclusion could be made in that the cross-section of individuals in Seward County, Nebraska were similar to adult college students at Iowa State University in their degree of self-directedness. This may be accounted for by the level of education of the respondent. There were 58.5 percent of the sample with a high school education, but less than a bachelors

degree and 23.4 percent had a bachelor's to doctorate degree. In total, the sample showed that 81.9 percent had an educational level of high school and beyond.

### Implications

Various learning methods used by adults require that learning resources be designed and packaged to fit the individual adult learning need. This implies that when planning educational programs for adults a wider range of choices need to be available for learning. Programmed instruction, Cooperative Extension courses, improved broadcast media, in-depth seminars, tape recordings, record recordings and computer programs are some of the possibilities.

It is evident from this study that numerous electronic devices are in the home that can be used for educational purposes. Innovative methods and techniques must be developed to encourage people to use the devices for learning as well as for pleasure. Extension and other agencies could develop tapes and recordings that could be taken home and played on their equipment, develop a hotline with varying subjects, make better radio programs and periodic television programs based upon the needs and interest of the people.

The current satisfaction level of learning methods used

to develop a skill were unsatisfactory to the learner. The findings regarding the preferred methods of learning revealed that small group workshops, demonstrations, field trips, tours, discussion groups as a learning method, and independent study (correspondence course) as another method are important means of disseminating information in skill development. The actual methods now being used and provided by the Seward County Extension are reading of newspaper articles, newsletters and state/federal publications. Methods used to assist the learner in the development of a skill should be reviewed.

The current satisfaction level of learning methods used when acquiring knowledge was unsatisfactory to the learners. The most preferred methods of learning to acquire knowledge were through independent study (correspondence course); small group workshops, demonstrations, field trips, tours, discussion groups; and face to face or telephone calls. The actual methods used were reading of newspaper articles, newsletters, and state/federal publications. This implies that methods used in disseminating information need to be reviewed for possible change. Individuals appear to be looking for a more personal approach to learning, including learning at home through independent study (correspondence courses). Educators tend to fall into the trap of

using a few teaching and learning methods to disseminate information or to assist individuals in their learning. As methods, techniques and concepts change, adult educators need to change and employ those devices that provide the best means of assisting the individual learner.

Individuals in this study infrequently used large meetings, classes and lectures in their learning. This may be because of a less personal approach or a method that has been shown to be unsatisfactory to fulfill the learning needs of the individuals. Because adults have often had degrading experiences in a classroom situation, they may tend to avoid this type of learning situation. The County Extension Staff member as a facilitator of learning must provide a friendly courteous atmosphere and a pleasant comfortable surrounding that is conducive to adult learning.

Personal visits, face-to-face contact and telephone calls were used infrequently for learning. This may have resulted from the fact that staff are out of the office frequently and not easily accessible. People who attempt to make personal contact with the staff and fail after a few attempts tend to resort to other sources or methods for their learning. This implies that if these methods are to be used more frequently, staff must make themselves more accessible to the public. This study found that in acquiring knowledge, one of the

methods preferred was more use of face-to-face contact and telephone calls. This implies a personal approach to learning.

Radio programs were used infrequently for learning. In Seward County radio programs are recorded and broadcasted over three radio stations. Two stations are located outside of the county and cover only a portion of the county with their service. One station (FM) is located in Seward, but has programming designed to appeal to the youth audience. The implications are that either the radio programs should be terminated or changes should be made in the format and content of the radio programs to attract a larger audience. Continuous promotion of the programs through listings in newspaper columns and newsletters may also be in order.

Changing methods of instruction or assisting the self-directed learner poses several interesting questions:

1. Can the Seward County Extension Service attract new or low use clientele to use the Cooperative Extension Service more often when seeking information?
2. Should the County Extension Staff spend more time in the selection of appropriate methods to be used to assist the self-directed learner?
3. Should the County Extension Staff spend more time in small group workshops, demonstrations, field trips, tours, discussion groups, independent study

(correspondence course), face-to-face contact, or telephone calls, thereby, provide a more personal and meaningful approach to learning?

4. Should the County Extension Service provide a learning center in the office for the self-directed learner with such equipment as, projectors, tape recorders, mini-computers, televisions, films, tapes, books and publications?

The large number of individuals utilizing the Seward County Extension Service as a source of information and the large number of individuals in the "medium" and "high" degree of self-directedness indicate that lifelong learning and self-directed learning are well-entrenched into the county. The adults in Seward County are spending considerable time and energy in deliberate and self-directed learning activities. With such a high percentage of self-directed adults, there is strong support for the belief that adults have both a need and interest in planning, conducting and guiding their own learning activities.

The results of this study support previous research which indicate that adults are self-directed. They assume the responsibility to diagnose their own learning needs, take the initiative to decide what is to be learned, set their own goals, plan the learning experience, direct the

learning by finding various resources to complete the task and evaluate the learning experience. The role of the Extension Service should be to act as a facilitator, provide the information needed to complete the learning activity, work with the learners in accomplishing their goals and to help them achieve a meaningful learning experience.

#### Recommendations for Further Research

The following are recommendations for further research based upon this study.

1. Research is needed to relate self-directed learning to a theoretical base so that the phenomenon of self-directed learning can be explained and predicted.
2. Research should be conducted toward identifying the learning environment that can best contribute to fostering self-directed learning.
3. Research is needed to study the quality of learning undertaken in self-directed learning experiences. Most research relating to adults' self-directed learning has been concerned with quantity rather than quality of learning.
4. The literature abounds with information that self-directed individuals use "reading" as a major source



of information in learning, but little information dealing with preference is found. A more extensive study should be designed to identify methods of learning used and those preferred.

5. Research is needed to study why adults use the Cooperative Extension Service as a source of information and the amount of learning that can be identified as coming from the Cooperative Extension Service in their decision-making process.
6. Additional research similar to this study to expand the number of variables to determine which variables are significantly related to self-directed learners and an extension program. Education was the only significant variable found. Are variables such as income, number of children, age of children, occupation and educational experiences in high school significantly related to self-directedness.
7. Research is needed to study how the various electronic media devices found in the homes can best be utilized for home study to aid the adult learner in his or her self-directed learning effort.
8. Research is needed for an in-depth study of methods used by the Cooperative Extension Service and the

impact of personal growth, development, income, family life and future orientation to using Extension as a source of information in their learning.

9. Additional research is needed to verify the results of this study. Seward County may possibly be typical for a rural and rural nonfarm community, but atypical for city residents. A study should be conducted that covers more than one county and uses a larger population sample.
10. A research study is needed to determine how the extension office could best be used in the process of self-directed learning. Perhaps the office could serve as a learning exchange center making referrals to appropriate agencies, finding resources based on specific needs, or helping learners uncover their own potential in using available resources.
11. Research needs to be accomplished to determine what in-service training is needed to properly acquaint county extension staff with the principles and concepts of self-directed learning and the methods the county staff should use in assisting self-directed learners in their efforts.

12. Research is needed for a comparative study of the individual characteristics of those individuals who use and do not use the Cooperative Extension Service as a source of information in their learning. Results may point to factors that could be used, and methods that could be developed to reach the nonuser of extension.

### Summary

From the sample studied, individuals in Seward County are self-directed in their learning and use the Seward Cooperative Extension Service as a source of information in their learning.

Based on this study, individuals were dissatisfied with the level of use of learning methods currently being used to develop a skill and when acquiring knowledge. Learners preferred more use of small group workshops, demonstrations, field trips, tours, discussion groups; independent study (correspondence course); and face to face or telephone calls in their learning efforts. The most used sources of information from the Seward County Extension Service were reading of newspaper articles, newsletters and state/federal publications.

The variables of place of residence, age and sex were not significantly related to self-directedness. However,

education was significantly related. Individuals with a high school education or beyond are significantly more self-directed than individuals with less education.

There appears to be a sufficient variety of electronic devices presently located in the homes that could be used for educational purposes.

The major implication to the Seward County Extension Service is that teaching and learning methods currently being used need to be changed to reflect the preference of the individuals doing the learning.

## CHAPTER VI. SUMMARY

## Introduction

The purpose of this section is to provide a brief synopsis of the research revealed by this study.

## Summary

The purpose of this study was to determine the self-directedness toward learning of individuals using a County Extension program; methods of learning now being used and/or preferred in seeking information to develop a skill and to acquire knowledge. It also attempted to develop a prediction equation to predict self-directedness and to also predict an extension participation score, to determine what electronic devices were available in the home which could be used for educational purposes, and to gain more understanding of the self-directed learning readiness score.

The research data were collected by using two instruments. The Guglielmino self-directed learning readiness scale was used to measure the self-directedness within the individual. This instrument was mailed to the sample. One week later an interview was held with each participant to complete a structured questionnaire to gather demographic data, determine the methods of learning used and preferred in the domain of skill development and acquiring knowledge,

electronic devices in the home and level of participation in a County Extension program. This study involved a sample of 77 individuals randomly selected from 5042 families in Seward County, Nebraska.

The place of residence, age, and sex were not significantly related to the self-directedness of individuals in the study. Education was found to be significant and positively related to self-directedness at the .05 level of probability. An analysis of variance did not reveal a significant interaction between these variables.

The study showed that 89.9 percent of the people sampled used the Seward County Extension Service as a source of information and 76.6 percent were categorized in the "medium" to "high" degree of self-directedness in their learning. In the sample, females were slightly more self-directed than males and females tended to use the Extension Service slightly more than males in securing information for learning. The differences in self-directedness between males and females were not significantly different.

All homes in the study had regular television, radio and telephones; 90 percent had record players, 64.9 percent had tape recorders; 18.2 percent had cable television; 3.9 percent had home video or disk recorders; and 2.6 percent had mini-computers.

A highly significant difference was found between the

current level of satisfaction of methods of learning used and those preferred in developing a skill. A preference existed for more use of small group workshops, demonstrations, field trips, tours, discussion groups as one method, and independent study (correspondence course) as another method. Individuals were satisfied with the level of use of large group meetings, classes and lectures; reading (printed material); face to face or telephone calls; and mass communication (radio, telephone, computers).

A highly significant difference was found between the current level of satisfaction on two methods of learning and a significance difference on one learning method in acquiring knowledge. A preference existed for more use of independent study (correspondence course); small group workshops, demonstrations, field trips, tours, discussion groups; and face to face or telephone calls. Individuals preferred less use of large group meetings, classes, lectures and reading (printed material). A preference existed for the same level of use of mass communication when acquiring knowledge.

Education was the only meaningful variable that could be used in predicting self-directedness when considering the variables of place of residence, age, sex and level of education. Also, in this study, self-directedness could not

be predicted by the number of meetings attended, telephone calls to the staff, personal visits to the staff, publication received, newsletters received, newspaper articles read and radio programs heard.

Major implications are: (1) teaching and learning methods are not being used by the Extension Service that are preferred by the individual learner; (2) programs need to be designed that involve the learner in more use of the Cooperative Extension Service; (3) extension staff need to make themselves more available to the individual learner on a one-to-one basis; (4) develop program materials that can be taken home and used on home electronic equipment to further the learning of the individual.



## BIBLIOGRAPHY

- Allerton, Thomas D. Selected Characteristics of the Learning Projects Pursued by Parish Ministers in the Louisville Metropolitan Area. (Doctoral Dissertation, University of Georgia, 1974). Dissertation Abstracts International 35 (1974): 5422A.
- Baghi, H. The Major Learning Efforts of Participants in Adult Basic Education Classes and Learning Centers. Unpublished Doctoral Dissertation, Iowa State University, 1979.
- Baker, J. N. A Study of the Relative Effectiveness of Sources from which Farmers get Information Regarding Agricultural Experiment Station Results. (Doctoral Dissertation, University of Minnesota, 1955). Dissertation Abstracts 15 (1955): 354A.
- Beal, George M. The Roots of Participation in Farmer Cooperatives. Ames, The College Bookstore, 1954.
- Benson, F. B. Learning Projects of Selected Administrators in Tennessee Colleges and Universities. (Doctoral Dissertation, University of Tennessee, 1974). Dissertation Abstracts International 35 (1974): 4958A.
- Bloom, B. S. Taxonomy of Educational Objectives: Cognitive Domain. New York: David McKay Company, Inc., 1956.
- Boone, Edgar T. The Cooperative Extension Service. Handbook of Adult Education in the United States, pp. 256-281. Edited by Robert M. Smith, George F. Aker, and J. R. Kidd. New York: The Macmillan Company, 1970.
- Borg, Walter R., and Gall, Meredith D. Educational Research: An Introduction. New York: Longman, Inc., 1979.
- Botwinick, Jack. Cognitive Processes in Maturity and Old Age. New York: Springer Publishing Co., 1978.
- Bower, E. M., and Hollister, W. G. eds. Behavioral Science Frontiers in Education. New York: Wiley, 1967.

- Boyle, William J. Adult Participation in Educational Activities. Unpublished Doctoral Dissertation, University of Wisconsin, 1962.
- Bruner, Jerome S. The Act of Discovery. Harvard Educational Review 31 (1961): 21-32.
- Brunner, Edmund. Rural America and the Extension Service. New York: Bureau of Publications, Teachers College Columbia University, 1949.
- Calvert, Robert. Learning Opportunities. Paris: Organization for Economic Co-operation and Development, 1977.
- Carlow, C. D. A Study of Variables Within the Method of Individually Guided Discovery in Secondary School Mathematics. (Doctoral Dissertation, Syracuse University, 1967). Dissertation Abstracts 29 (1967): 180A.
- Coleman, A. L. "Differential Contact with Extension Work in a New York Rural Community." Rural Sociology 16 (September, 1951): 207-216.
- Coolican, Patricia M. The Learning Styles of Mothers of Young Children. (Doctoral Dissertation, Syracuse University, 1973). Dissertation Abstracts International 35 (1973): 783A.
- Crombach, L. J. The Logic of Experiments on Discovery. In Learning by Discovery: A Critical Appraisal. Edited by L. S. Shulmans and E. R. Keisler. Skokie: Rand McNally Co., 1967.
- Cropley, A. J., and Dave, R. H. Lifelong Education and the Training of Teachers. London: William Clowes & Sons Limited, 1978.
- David, R. H. Lifelong Education and School Curriculum. Hamberg: UNESCO, 1973.
- DeCrow, R. New Learning for Older Americans. Washington: Adult Education Association of the United States of America, 1974.

- Dobbs, Ralph. Adult Education in America: An Anthological Approach. Cassville, Mo. Litho Printers, 1970.
- Doherty, John P. The Concomitants of Lifelong Learning. (Doctoral Dissertation, Cornell University, 1980). Dissertation Abstracts International 41 (1980): 895A.
- Dutton, Donnie. A Look at Lifelong Learning. Denton, Tx.: South Central Association for Lifelong Learning, 1978. ERIC ED 166 375.
- Erikson, Erik. Childhood and Society. New York: W. W. Norton and Co., 1950.
- Erikson, Erik. Identity and the Life Cycle. New York: International University Press, 1959.
- Erikson, Erik. Insight and Responsibility. New York: Norton, 1964.
- Fair, J. Teachers as Learners: The Learning Projects of Beginning School Teachers. (Doctoral Dissertation, University of Toronto, 1973). Dissertation Abstracts International 35, (1973): 5759A.
- Fisher, Susan G. The Relationship Between the Role of Farmers Wives and Patterns of Educational Participation. (Doctoral Dissertation, University of Minnesota, 1980). Dissertation Abstracts International 41, 2678A.
- Forest, L., and Lonergan, S. "Should we Still Teach by Phone?" Extension Service Review 45, No. 1 (January-February, 1974): 43.
- Forest, L. B., and Marshall, M. G. Impact of Extension in Shawano County: Conclusions and Implications. Washington, D.C. Extension Service (DCA), 1977. ERIC ED 160 325.

- Getzels, J. W., and Jackson, P. W. Creativity and Intelligence. New York: Wiley, 1962.
- Gibson, D. L. The Clientele of the Agriculture Extension Service. Michigan Agricultural Experiment Station Quarterly Bulletin No. 26 (1944): 237-246.
- Gross, John G. "Farmers Attitude Toward Extension." Journal of Extension 15 (March/April 1977): 13-19.
- Groves, Marjorie. Social Systems, Roles and Information Sources Used in Two Adult Education Programs. Unpublished Doctoral Dissertation, Iowa State University, 1978.
- Guglielmino, L. M. Self-directed Learning Readiness Scale. (Doctoral Dissertation, University of Georgia, 1977). Dissertation Abstracts International 38 (1977): 6767A.
- Havighurst, Robert J. Developmental Tasks and Education. New York: McKay Company, Inc., 1972.
- Hendrickson, Andrew and Foster, Elizabeth. Educational Needs of Out-of-School Youth in Participants in Adult Education. In Handbook of Adult Education in the United States, pp. 33-34. Edited by Coolie Verner and Thurman White. Washington, D.C.: Adult Education Association of the United States, 1965.
- Hersburgh, T. M., Miller, P. A., and Wharton, C. R. Patterns for Lifelong Learning. San Francisco: Jossey-Bass Publishers, 1973.
- Hiemstra, Roger. The Older Adult Learning. Lincoln, Nebraska: Department of Adult and Continuing Education, University of Nebraska, 1975.
- Hiemstra, Roger. Lifelong Learning. Lincoln, Nebraska: Professional Educators Publications, Inc., 1976.
- Hiemstra, Roger. Identifying "Success" Characteristics in Self-Directed Adult Learners. Occasional Paper No. 2. Adult and Extension Education Section, Department of Professional Studies, College of Education, Iowa State University, 1978.

- Hoiberg, Eric O. and Huffman, Wallace. Profile of Iowa Farm and Farm Families: 1976. Iowa Agriculture and Home Economics Experiment Station and Cooperative Extension Service Bulletin P-141, 1978.
- Holtzclaw, Louis R. "The Adult Learner's Need for Inner Freedom." Lifelong Learning: The Adult Years 3, No. 1 (September, 1979): 18-19 and 24.
- Houle, Cyril O. The Inquiring Mind. Madison: University of Wisconsin Press, 1963.
- Houle, Cyril O. The Design of Education. San Francisco: Jossey-Bass, Inc., 1972.
- Iscoe, I., and Stevenson, W. W. (eds.). Personality Development in Children. Austin, Texas: University of Texas Press, 1960.
- Johns, W. E. Selected Characteristics of the Learning Projects Pursued by Practicing Pharmacists. Unpublished Doctoral Dissertation, University of Georgia, 1973.
- Johnson, E. Selected Characteristics of Learning Projects Pursued by Adults who have Earned a High School Diploma and/or High School Equivalency Certificate. (Doctoral Dissertation, University of Georgia, 1973). Dissertation Abstracts International 37, (1973): 5182A.
- Johnstone, John W. C., and Rivera, Ramon J. Volunteers for Learning. Chicago, Illinois: Aldine Publishing Company, 1965.
- Karlberg, Marilee. The Cooperative Extension Service: An Image and Needs Assessment Survey in Five Nebraska Counties. Nebraska Cooperative Extension Service. University of Nebraska, Lincoln, 1980.
- Karlberg, M., and Cranfill, J. Hamilton County: Image and Needs Assessment Survey. Nebraska Cooperative Extension Service, University of Nebraska, Lincoln, 1980.
- Kelley, Nancy E. A Comparative Study of Professional Related Learning Projects of Secondary School Teachers. Unpublished master's thesis, Cornell University, 1976.

- Kelsey, L. D. and Hearne, C. C. Cooperative Extension Work. New York: Comstock Publishing Associates, 1963.
- Kidd, J. R. How Adults Learn. New York: Associated Press, 1959.
- Kidd, J. R., and Selman, G. R. Coming of Age. Toronto: Canadian Association for Adult Education, 1978.
- Kidd, J. R. A Nation of Learners. Yearbook of Adult and Continuing Education, pp. 2-13. Edited by Phyllis M. Cunningham. New York: Marquis Who's Who, Inc., 1980.
- Knowles, M. S. The Modern Practices of Adult Education. New York: Association Press, 1970.
- Knowles, M. S. The Adult Learners: A Neglected Species. Houston, Texas: Gulf Publishing Company, 1973.
- Knowles, M. S. Self-Directed Learning: A Guide for Learners and Teachers. New York: Association Press, 1975.
- Knox, Alan B. "Proficiency Theory of Adult Learning." Contemporary Educational Psychology 5, No. 4 (October, 1980): 378-405.
- Knox, Alan B. Development During Adulthood. San Francisco: Jossey-Bass Publishers, 1977.
- Knox, Alan B. Adult Development and Learning. San Francisco: Jossey-Bass Publishers, 1978.
- Kohlberg, L. "Stages and Aging in Moral Development—Some Speculations." The Gerontologist 13, No. 4 (Winter 1973): 497-502.
- Kratz, R. J. The Effects of Programs which Foster Self-Directed Learning on the Drop-Out Rate, the Length of Stay, and the Preference for Self-Directed Learning of Adult Basic Education Students. Unpublished Doctoral Dissertation, University of New York, 1978.
- Kroetz, Marion C., and Cole, Robert. "TV Captures Extension Farm Audience." Journal of Extension 14 (May/June, 1978): 18-23.

- Kummerow, J., Sillers, B., and Hummel, T. J. Programming for Adult Education. Minneapolis: University of Minnesota, Education Career Development Office, 1978. ERIC ED 159 517.
- Lewis, R. B. "Educational Participation of Low SES Adults." Journal of Extension 19, No. 3 (Fall 1971): 24-30.
- Loevinger, J. Ego Development. San Francisco: Jossey-Bass Publishers, 1976.
- Long, H. B. "A Comparison of Participants and Non-Participants in a CD Program." Journal of Community Development Society 2, No. 1 (Spring 1971): 59-66.
- Marshall, Charles. The Effectiveness of Home Study. Chicago: LaSalle Extension University, 1976.
- Martin, Larry. A Descriptive Study of the Psychosocial Characteristics of ABE/ASE Students. April 1978. ERIC ED 164 820.
- McCatty, C. Patterns of Learning Projects Among Professional Men. Unpublished Doctoral Dissertation, University of Toronto, 1973.
- McClusky, H. "A Dynamic Approach to Participation in Community Development." Journal of Community Development Society 1 No. 1 (Spring 1970): 25-32.
- McKenna, J., and Nixon, J. "Energy Interest—Rural and Urban Differences." Journal of Extension 17 (September/October 1979): 15-20.
- McKenzie, Leon. "A Response to Elias." Adult Education 29, No. 4 (Summer 1979): 256-263.
- Miller, Nancy L. Teachers and Non-Teaching Professionals as Self-Directed Learners. Unpublished Master's Thesis. Cornell University, 1977.
- Miller, N., and Botsman, P. "Continuing Education for Extension Agents." Human Ecology Forum 16, No. 2 (Fall 1975): 14-17.
- Moore, M. G. "Learning Autonomy: The Second Dimension of Independent Study." Convergence 15, No. 2 (1972): 76-87.

- Morgan, B., Holmes, G., Bundy C. Methods in Adult Education. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1976.
- National Advisory Council on Extension and Continuing Education. Washington, D.C., September 1979. ERIC ED 179 814.
- Neugarten, Bernice L. Middle Age and Aging: A Reader in Social Psychology. Chicago: The University of Chicago Press, 1968.
- Newton, J. E. Influences of Learners Choice on the Effectiveness of Alternative Modes of Presentation of Learning Material. Unpublished Doctoral Dissertation, University of Minnesota, 1958.
- Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., and Brent, D. H. Statistical Package for the Social Sciences (SPSS). New York: McGraw-Hill Book Company, 1975.
- Nolan, M., and Lasley, P. "Agricultural Extension: Who Uses It? Journal of Extension 17 (September/October, 1979): 21-27.
- Oaks, I. Participation in Adult Education. Washington, D.C.: National Center for Educational Statistics, U.S. Office of Education, 1972.
- Penland, P. Self-Planned Learning in America. San Antonio, Texas: Adult Education Research Conference, 1978. ERIC ED 152 987.
- Penland, P. "Self-Initiated Learning." Adult Education 29, No. 3 (Spring 1979): 179-179.
- Peters, J. M., and Gordon, R. S. Adult Learning Projects: A Study of Adult Learning in Urban and Rural Tennessee. Knoxville, Tennessee: University of Tennessee, 1974.
- Pugni, J. L. Adult Education Through Home Study. New York: Arco Publishing Co., Inc., 1965.
- Roberts, J. J. In Evaluation of Selected Teaching Methods in Getting a New Farm Practice Adopted in St. Landry Parish. Unpublished Masters Thesis, Louisiana, State University, 1961.



- Rockwell, Kay S., and Vawser, Lyle W. Cedar County: Image and Needs Assessment Survey. Nebraska Cooperative Extension Service, University of Nebraska, Lincoln, 1979.
- Rogers, Carl. Freedom to Learn. Columbus, Ohio: Charles E. Merrill Publishing Co., 1969.
- Rogers, E. M., and Shoemaker, F. F. Communication of Innovations: A Cross-Cultural Approach. New York: The Free Press, 1971.
- Rogers, M. T. The State Agency Perspective for Research on Lifelong Learning. Toronto: Michigan Department of Education, 1978. ERIC ED 162 175.
- Rose, A. M. The Subculture of Aging: A Topic for Sociological Research. In Middle Age and Aging. Edited by B. L. Neugarten. Chicago: University of Chicago Press, 1968.
- Sabbaghian, Z. S. Adult Self-Directedness and Self-Concept: An Exploration of Relationship. Unpublished Doctoral Dissertation, Iowa State University, 1979.
- Slocum, W. L. "Attributes of Farm Families with Low Frequency of Contact with Agricultural Extension." Rural Sociology 22, No. 3 (September 1957): 281-284.
- Straus, Murray A. "Managerial Selectivity of Intensive Extension Work." Rural Sociology 24 (June, 1959): 150-161.
- Toffler, A. Future Shock. New York: Random House, 1970.
- Tough, Allen. The Adult's Learning Project: A Fresh Approach to Theory and Practice in Adult Learning. Toronto, Ontario: Institute for Studies in Education, 1971.
- Tough, Allen. Fostering Self-Planned Learning. Learning Opportunities for Adults, pp. 90-118. Paris: Organization for Economic Co-operation and Development (OECD), 1979. (a)
- Tough, Allen. The Adult's Learning Project: A Fresh Approach to Theory and Practice in Adult Learning (2nd ed.). Toronto, Ontario: Institute for Studies in Education, 1979. (b)

- Umoren, A. Learning Projects: An Exploratory Study of Learning Activities of Adults in a Selected Socio-economic Group. Unpublished Doctoral Dissertation, University of Nebraska, 1977.
- Vacca, R. T., and Walker, J. E. "Andragogy: The Missing Link in College Reading Programs." Lifelong Learning: The Adult Years 3, No. 6 (February 1980): 16, 24-25.
- Verner, Coolie. Definition of Terms. In Gale Jensen, A. A. Liveright, and Wilbur Hallenbeck (eds.), Adult Education: Outline of an Emerging Field of University Study. Washington, D.C.: Adult Education Association of the United States, 1964.
- Verner, Coolie. The Adoption or Rejection of Innovations by Dairy Farmers in the Lower Fraser Valley. Ottawa: Agricultural Economics Research Council, Publication No. 11, June, 1967.
- Verner, Coolie and Newberry, John S. The Nature of Adult Participation. In Participants in Adult Education, pp. 1-15. Edited by Coolie Verner and Thurman White. Washington, D.C.: Adult Education Association of the United States, 1965.
- Voland, M. E. Factors Related to Participation in an Extension Program. Unpublished Master's Thesis, Iowa State University, 1956.
- White, R. H. "Motivation Reconsidered: The Concept of Competence." Psychological Review 66 (1959): 297-333.
- Zangari, D. J. Learning Projects of Adult Educators in Nebraska Postsecondary Institutions. Unpublished Doctoral Dissertation, University of Nebraska, 1977.

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Special appreciation goes to my wife Janet, and sons Mark and David for their continued encouragement and support throughout the graduate degree program and the completion of this study.

This study is dedicated to my family.

APPENDIX A: SELF-DIRECTED LEARNING  
READINESS SCALE

Name \_\_\_\_\_ Sex \_\_\_\_\_ Birthdate \_\_\_\_\_  
 Date of Testing \_\_\_\_\_ Location of Testing \_\_\_\_\_

## QUESTIONNAIRE

**INSTRUCTIONS:** This is a questionnaire designed to gather data on learning preferences and attitudes towards learning. After reading each item, please indicate the degree to which you feel that statement is true of you. Please read each choice carefully and circle the number of the response which best expresses your feeling.

There is no time limit for the questionnaire. Try not to spend too much time on any one item, however. Your first reaction to the question will usually be the most accurate.

### RESPONSES

#### ITEMS:

1. I'm looking forward to learning as long as I'm living.
2. I know what I want to learn.
3. When I see something that I don't understand, I stay away from it.
4. If there is something I want to learn, I can figure out a way to learn it.
5. I love to learn.
6. It takes me a while to get started on new projects.
7. In a classroom, I expect the teacher to tell all class members exactly what to do at all times.
8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.
9. I don't work very well on my own.

	<i>Almost never true of me; I hardly ever feel this way.</i>	<i>Not often true of me; I feel this way less than half the time.</i>	<i>Sometimes true of me; I feel this way about half the time.</i>	<i>Usually true of me; I feel this way more than half the time.</i>	<i>Almost always true of me; there are very few times when I don't feel this way.</i>
1	1	2	3	4	5
2	1	2	3	4	5
3	1	2	3	4	5
4	1	2	3	4	5
5	1	2	3	4	5
6	1	2	3	4	5
7	1	2	3	4	5
8	1	2	3	4	5
9	1	2	3	4	5

10. If I discover a need for information that I don't have, I know where to go to get it.
11. I can learn things on my own better than most people.
12. Even if I have a great idea, I can't seem to develop a plan for making it work.
13. In a learning experience, I prefer to take part in deciding what will be learned and how.
14. Difficult study doesn't bother me if I'm interested in something.
15. No one but me is truly responsible for what I learn.
16. I can tell whether I'm learning something well or not.
17. There are so many things I want to learn that I wish that there were more hours in a day.
18. If there is something I have decided to learn, I can find time for it, no matter how busy I am.
19. Understanding what I read is a problem for me.
20. If I don't learn, it's not my fault.
21. I know when I need to learn more about something.
22. If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it.
23. I think libraries are boring places.
24. The people I admire most are always learning new things.

*Almost never true of me;  
I hardly ever feel this way.*

*Not often true of me; I  
feel this way less than half  
the time.*

*Sometimes true of me; I  
feel this way about half  
the time.*

*Usually true of me; I feel  
this way more than half  
the time.*

*Almost always true of me;  
there are very few times  
when I don't feel this way*

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25. I can think of many different ways to learn about a new topic.
26. I try to relate what I am learning to my long-term goals.
27. I am capable of learning for myself almost anything I might need to know.
28. I really enjoy tracking down the answer to a question.
29. I don't like dealing with questions where there is not one right answer.
30. I have a lot of curiosity about things.
31. I'll be glad when I'm finished learning.
32. I'm not as interested in learning as some other people seem to be.
33. I don't have any problem with basic study skills.
34. I like to try new things, even if I'm not sure how they will turn out.
35. I don't like it when people who really know what they're doing point out mistakes that I am making.
36. I'm good at thinking of unusual ways to do things.
37. I like to think about the future.
38. I'm better than most people are at trying to find out the things I need to know.
39. I think of problems as challenges, not stopsigns.
40. I can make myself do what I think I should.

Almost never  
I hardly

**Not often true of  
feel this way.**

Sometimes +  
feel +

Usually take about half the time.

...y more than half  
the time.

...ays true of me  
...are very few times  
...when I don't feel ...

41. I'm happy with the way I investigate problems.
42. I become a leader in group learning situations.
43. I enjoy discussing ideas.
44. I don't like challenging learning situations.
45. I have a strong desire to learn new things.
46. The more I learn, the more exciting the world becomes.
47. Learning is fun.
48. It's better to stick with the learning methods that we know will work instead of always trying new ones.
49. I want to learn more so that I can keep growing as a person.
50. I am responsible for my learning — no one else is.
51. Learning how to learn is important to me.
52. I will never be too old to learn new things.
53. Constant learning is a bore.
54. Learning is a tool for life.
55. I learn several new things on my own each year.
56. Learning doesn't make any difference in my life.
57. I am an effective learner in the classroom and on my own.
58. Learners are leaders.

<i>Almost never true of me; I hardly ever feel this way.</i>	<i>Not often true of me; I feel this way less than half the time.</i>	<i>Sometimes true of me; I feel this way about half the time.</i>	<i>Usually true of me; I feel this way more than half the time.</i>	<i>Almost always true of me; there are very few times when I don't feel this way.</i>
1	2	3	4	5
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APPENDIX B: SEWARD COUNTY DATA  
COLLECTION FORM

NUMBER

153

DATA COLLECTION FORM

DO NOT WRITE  
IN THIS  
SPACE

1. Place of Residence. (Check only one blank)

<input type="checkbox"/> Rural Farm	<input type="checkbox"/> Beaver Crossing	<input type="checkbox"/> Bee
<input type="checkbox"/> Rural, NonFarm	<input type="checkbox"/> Utica	<input type="checkbox"/> Pleasant Dale
<input type="checkbox"/> Seward	<input type="checkbox"/> Tamora	<input type="checkbox"/> Staplehurst
<input type="checkbox"/> Milford	<input type="checkbox"/> Goehner	<input type="checkbox"/> Garland
<input type="checkbox"/> Cordova		

2. What is your age? \_\_\_\_\_

3. Please indicate your sex. ☐ Male ☐ Female

4. How much formal education have you completed? (Check the highest level)

<input type="checkbox"/> Less than eighth grade	_____
<input type="checkbox"/> Less than a high school diploma or equivalency certificate	_____
<input type="checkbox"/> Graduated from high school or received an equivalency certificate	_____
<input type="checkbox"/> Attended vocational or other professional school after high school	_____
<input type="checkbox"/> Graduated from vocational or other professional school after high school	_____
<input type="checkbox"/> Attended college	_____
<input type="checkbox"/> Graduated from college (Bachelor's degree)	_____
<input type="checkbox"/> Attended graduate school or other professional school after graduating with a bachelor's degree	_____
<input type="checkbox"/> Received a Master's degree	_____
<input type="checkbox"/> Received Ph.D or Ed.D	_____

5. Which of the following items do you have in your home?

<input type="checkbox"/> Cable television	_____
<input type="checkbox"/> Regular television	_____
<input type="checkbox"/> Radio	_____
<input type="checkbox"/> Telephone	_____
<input type="checkbox"/> Mini-computer (Pet, Apple, Radio Shack, etc.)	_____
<input type="checkbox"/> Tape recorder	_____
<input type="checkbox"/> Record player	_____
<input type="checkbox"/> Home video or disk recorder	_____

6. What method or methods of learning are you NOW using when you need information on how to "DEVELOP A SKILL." For example: Learn to weld; learn to sew; learn to trim a tree; learn to decorate a cake; etc. If the method listed below is not used, leave blank. If the method or methods are used, please check the appropriate blank and then indicate on a scale of 1 to 5, the degree of use. Circle only one number for each method used. Method or methods must have been used in the past 12 months.

	USED OFTEN	USED FAIRLY OFTEN	USED OCCASIO- NALLY	USED ONCE IN A WHILE	USED SELDOM	DO NOT WRITE IN THIS SPACE
____ Large group meetings, classes, lectures	1	2	3	4	5	_____
____ Small group workshops, demon- strations, field trips, tours, discussion groups	1	2	3	4	5	_____
____ Face to face or telephone calls	1	2	3	4	5	_____
____ Reading (printed material)	1	2	3	4	5	_____
____ Mass Communications (Radio, television, computers)	1	2	3	4	5	_____
____ Independent study (Correspondence Course)	1	2	3	4	5	_____

7. What method or methods of learning would you PREFER to use when seeking information on how to "DEVELOP A SKILL." For example: Learn to weld; learn to sew; learn to trim a tree; learn to decorate a cake; etc. If the method listed below is not used, leave blank. If the method or methods are used, please check the appropriate blank and then indicate on a scale of 1 to 5, the degree of use. Circle only one number for each method used. Method or methods must have been used in the past 12 months.

	PREFER MOST	PREFER OFTEN	PREFER OCCASIO- NALLY	PREFER SOMETIMES	PREFER LEAST	
____ Large group meetings, classes, lectures	1	2	3	4	5	_____
____ Small group workshops, demon- strations, field trips, tours, discussion groups	1	2	3	4	5	_____
____ Face to face or telephone calls	1	2	3	4	5	_____
____ Reading (printed material)	1	2	3	4	5	_____
____ Mass Communications (Radio, television, computers)	1	2	3	4	5	_____
____ Independent study (Correspondence Course)	1	2	3	4	5	_____

8. What method or methods of learning are you NOW using when you need information on how to "ACQUIRE KNOWLEDGE." For example: Selecting farm or home chemicals; purchasing equipment for farm or home; learn how to care for a child; learn to color coordinate a room; learn the history of your county; etc. If the method listed below is not used, leave blank. If the method is used, please check the appropriate blank and indicate on a scale of 1 to 5 the degree of use. Circle only one number for each method used.

	USED OFTEN	USED FAIRLY OFTEN	USED OCCASIO- NALLY	USED ONCE IN A WHILE	USED SELDOM	DO NOT WRITE IN THIS SPACE
Large group meetings, classes, lectures	1	2	3	4	5	_____
Small Group workshops, demonstrations, field trips, tours, discussion groups	1	2	3	4	5	_____
Face to face or telephone calls	1	2	3	4	5	_____
Reading (printed material)	1	2	3	4	5	_____
Mass Communications (Radio, television, computers)	1	2	3	4	5	_____
Independent study (Correspondence Course)	1	2	3	4	5	_____

9. What method or methods of learning would you PREFER to use when seeking information on how to "ACQUIRE KNOWLEDGE." For example: Selecting farm or home chemicals; purchasing equipment for farm or home; learning how to care for a child; learn to color coordinate a room; learn the history of your county; etc. If the method is used, please check the appropriate blank and indicate on a scale of 1 to 5 the degree of use. Circle only one number for each method used.

	PREFER MOST	PREFER OFTEN	PREFER OCCASIO- NALLY	PREFER SOMETIMES	PREFER LEAST	
Large group meetings, classes, lectures	1	2	3	4	5	_____
Small group workshops, demonstrations, field trips, tours, discussion groups	1	2	3	4	5	_____
Face to face or telephone calls	1	2	3	4	5	_____
Reading (printed material)	1	2	3	4	5	_____
Mass Communications (Radio, television, computers)	1	2	3	4	5	_____
Independent study (Correspondence Course)	1	2	3	4	5	_____

10. Do you use the Cooperative Extension Service as a source of information? (That is, do you have any contact with the COUNTY AGENT, HOME ECONOMIST, EXTENSION SPECIALIST, 4-H AIDE, READ EXTENSION PUBLICATION, NEWSLETTERS, NEWSPAPER ARTICLES OR LISTEN TO EXTENSION RADIO PROGRAMS. Please indicate the type of contact you PERSONALLY had with the Seward County Extension Service during the past 12 months.

QUESTION: I PERSONALLY attended a meeting in Seward County in which information was presented by:	YES	NO	DO NOT WRITE IN THIS SPACE
1. Seward County Extension Agent	_____	_____	_____
2. Seward County 4-H Aide	_____	_____	_____
3. State Extension Specialist	_____	_____	_____
4. Local 4-H Leader	_____	_____	_____
5. Seward County or Area Home Economist	_____	_____	_____
6. ESTIMATE THE TOTAL number of meetings attended with Seward County Extension Staff during the past 12 months	NUMBER _____		_____
7. Talked on the telephone with a Seward County Extension Staff member about a SPECIFIC problem during the past 12 months	_____	_____	_____
8. ESTIMATE THE TOTAL number of telephone calls you made to any Seward County Extension Staff member during the past 12 months	NUMBER _____		_____
9. Discussed a problem in PERSON with a Seward County Extension Staff member during the past 12 months	_____	_____	_____
10. ESTIMATE THE TOTAL number of times you discussed a problem in person with a Seward County Extension Staff member during the past 12 months	NUMBER _____		_____
11. Received a publication (Federal or State) from the Seward County Extension Office during the past 12 months	_____	_____	_____
12. ESTIMATE THE TOTAL number of publication received from the Seward County Extension Office during the past 12 months	NUMBER _____		_____
13. Received a newsletter (printed or mimeographed from the Seward County Extension Office during the past 12 months	_____	_____	_____
14. ESTIMATE THE TOTAL number of newsletters you received from the Seward County Extension Office during the past 12 months	NUMBER _____		_____
15. Read any newspaper articles written by the Seward County Extension Staff during the past 12 months	_____	_____	_____
16. ESTIMATE THE TOTAL number or newspaper articles read that were written by any Seward County Extension Staff member during the past 12 months	NUMBER _____		_____
17. Listened to any radio program prepared by a Seward County Extension Staff member during the past 12 months	_____	_____	_____
18. ESTIMATE THE TOTAL number of radio program heard that were prepared by a Seward County Extension Staff member during the past 12 months	NUMBER _____		_____

APPENDIX C: LETTER OF TRANSMITTAL

1014 Mesa Verde Place  
Ames, Iowa 50010  
November 12, 1980

Having been the Seward County Extension Agent for eight years (1970-1978) I had the privilege of serving many of you and your families with educational information and through the 4-H program. Also, many of you assisted me in the operation, maintenance and building of the Seward County Extension program through the many activities and events that were conducted.

The study that I am currently working on will aid the Cooperative Extension Service in making decisions about programming that will better meet the needs of Seward County residents. The study pertains to the degree of an individuals self-directedness in his or her learning activities. It looks at the use-nonuse of the Seward County Extension program; the method or methods used and/or preferred in learning how to develop a skill or acquire knowledge and the kind of educational electronic devices presently found in homes. The information collected will be used for my doctoral dissertation from Iowa State University.

Once again, I am asking for your assistance by completing the enclosed questionnaire which takes about 20-30 minutes, and agreeing to an interview to answer ten additional questions. The interview will take about 10-15 minutes of your time. The questionnaire that you received with this letter should be completed prior to the arrival of the interviewer. However, if you have questions about completing the form, please wait until the interviewer arrives at your home. The interviewer will pick-up the completed questionnaire at the time of the interview. To save time, the interviewer will telephone you prior to the interview to arrange for a convenient time to meet.

I am particularly interested in your response because of your varied experience in obtaining educational information from a variety of sources. Information from any source is important in the decision making process. Your response will contribute significantly toward solving some of the problems faced in providing programs that meet the needs of the people in the county.

Notice that each of the forms have a number. This number is for identifying the two survey instruments in case they become separated or mixed prior to their analysis. Once the data is transferred to data processing cards the forms will be destroyed. Your response will be combined with all other responses, therefore, there is no way to trace who answered what question in a specific way. You are guaranteed complete anonymity.

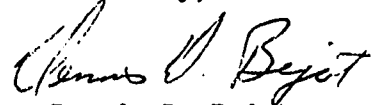
If for any reason, you desire to discontinue your participation, you may do so without prejudice from the researcher or any individual assisting in the study.

During the time of the interviews I will be at my home in Seward. The address is 1152 North First Street and the telephone number is 643-3342. Feel free to contact me if you have questions, problems or concerns. I also may be contacted at my home in Ames, Iowa. The telephone number is area code (515) 292-8322

The interviewers will be Larry Brandt, Donna Garbacz, Mick McDowell, Jim Wilson, Albert Ebers and myself.

I wish to take this opportunity to personally thank each of you for your assistance and cooperation in making my study a success.

Sincerely,

  
Dennis D. Bejot  
Graduate Student  
Iowa State University  
Ames, Iowa 50010



APPENDIX D: TELEPHONE CONTACT

161  
TELEPHONE CONTACT

PRIOR TO THE INTERVIEW

Good morning (or afternoon or good evening). My name is \_\_\_\_\_.  
I am calling in regards to a letter and questionnaire that were sent to you last week by Dennis Bejot, who was a former Seward County Extension Agent. Mr. Bejot is studying the degree of self-directedness in individuals as it relates to the method or methods of learning now being used as opposed to the method or methods the learner prefers to use when obtaining information. The study looks specifically at method or methods use and/or preferred when obtaining information on DEVELOPING A SKILL and ACQUIRING KNOWLEDGE. He is also interested in the use and nonuse of the Seward County Extension Service by Seward County residents. The study will be a major asset to the program planning efforts of the Seward County Extension Service. Ultimately the people of the County will be the major benefactors. All information will be used in writing a doctoral dissertation.

In the letter you received, Mr. Bejot indicated the study involved completing the mailed questionnaire and an interview of ten additional questions. The interview will take only 10 to 15 minutes of your time. I would appreciate it very much if we could schedule a time, date and place that would be convenient for you and myself. We are planning on completing the interviews this week (or by \_\_\_\_\_). Therefore, I would suggest meeting at       (time)       on       (date)      . If this is not convenient for you, would you suggest a time and date? Where would be a convenient place (home, office, etc) to meet?

I will be looking foreward to our meeting and want to thank you for your participation.

APPENDIX E: INTERVIEW CONTACT FORM

## INTERVIEW CONTACT FORM

Good morning (or afternoon or good evening). My name is \_\_\_\_\_, I am the person who telephoned you (yesterday, last evening or two days ago) about completing an interview questionnaire pertaining to self-directed learning and the method or methods of learning that you are now using or prefer to use. Also, I would like to pick-up the questionnaire that you should have received from Mr. Bejot within the last week. If you have any questions on the mailed questionnaire, I would be happy to answer them before starting on the interview.

---

Suggest sitting at a table where it will be convenient to talk and record the information on the data collection form.

---

Before we begin, I want to remind you that the information provided on both of the questionnaires will be compiled with responses from other individuals in the study. Your name will not be used or appear in the study. No one will be able to identify you nor the responses to the questions. By law, you are guaranteed complete anonymity and we will be sure that anonymity is observed. Also, once the data has been transferred from the questionnaires to computer cards the questionnaires will be destroyed.

---

The procedure that I suggest we use is that I will read each question and ask that you give your response. If you do not understand the question, please tell me, so it can be clarified.

---

1. I would like to start the interview by determining exactly where your place of residence is located. Do you live on a RURAL FARM which is defined as having or normally would have had sales of agricultural products of \$1,000.00 or more per year? Or is your place of residence RURAL NON-FARM which is defined as not having or normally would not have had sales of agricultural products of \$1,000.00 or more per year? Or do you reside in one of the towns or villages in Seward County? That is, Seward, Milford, Cordova, Beaver Crossing, Utica, Tamora, Goehner, Bee, Pleasant Dale, Staplehurst or Garland. Check the appropriate blank. Only one blank should be checked for this question.
- 

2. One of the most important variable that educators use in studying people is their age. Therefore, we would appreciate it very much if you would indicate your age.

If the person hesitates, remind them that the information is confidential and will not be given to anyone. Do not press them if they do not want to reveal their age. RECORD THEIR AGE.

---

3. Sex. CHECK THE APPROPRIATE BOX.

- 
4. What is the highest level of formal education that you have attained?

Is your educational level LESS THAN EIGHTH GRADE? (yes or no). LESS THAN A HIGH SCHOOL DIPLOMA OR EQUIVALENCY CERTIFICATE? (yes or no). DID YOU GRADUATE FROM HIGH SCHOOL OR RECEIVE AN EQUIVALENCY CERTIFICATE? (yes or no). ATTEND A VOCATIONAL OR OTHER PROFESSIONAL SCHOOL AFTER HIGH SCHOOL? (yes or no). Did you GRADUATE FROM A VOCATIONAL OR OTHER PROFESSIONAL SCHOOL AFTER HIGH SCHOOL? (yes or no). These two questions pertain to schools or colleges of less than four years. Such as Milford Community College, Lincoln School of Business; Any other vocational or technical school; Any Business school or college; Computer schools; Nurses schools; etc. DID YOU ATTEND COLLEGE? (yes or no). This refers to any Liberal Arts or college of four years. Did you GRADUATE FROM COLLEGE WITH A BACHELOR'S DEGREE? (yes or no). Have you RECEIVED A MASTER'S DEGREE? (yes or no). Have you RECEIVED A Ph.D or Ed.D? (yes or no).

5. We are interested in looking ahead at future programming methods that may be used by the Cooperative Extension Service. We are particularly interested in electronic devices that can be used for educational purposes. Within the past few years a considerable amount of electronic devices have been sold and are being used in the homes as educational tools. Whether you have used the devices for obtaining information is not important to this study, however, we are interested in determining to what degree the devices exist in the homes.

I will read the list of devices and please indicate if you have them in your home. Do you have CABLE TELEVISION? (yes or no). Do you have REGULAR TELEVISION in your home? (yes or no). Do you have a RADIO? (yes or no). Do you have a TELEPHONE? (yes or no). Do you have a MINI-COMPUTER? (yes or no). That is, do you have a PET, APPLE OR RADIO SHACK COMPUTER. Do you have a TAPE RECORDER? (yes or no). Do you have a RECORD PLAYER? (yes or no). Do you have a HOME VIDEO OR DISK RECORDER? (yes or no).

- 
6. I would like to change directions now and ask you a question about the method or methods you are NOW using when you need information on how to "DEVELOP A SKILL." For example, if you wanted to learn how to weld, learn how to sew; learn to trim a tree; or learn how to decorate a cake, what method or methods are you NOW using?

I will read the list of methods and have you indicate whether or not you are NOW using that method when finding information on how to "DEVELOP A SKILL." THEN, we will go back and have you indicate the degree of use for each of the methods you selected.

In seeking information on how to "DEVELOP A SKILL" do you NOW use LARGE GROUP MEETINGS, CLASSES OR LECTURES? (yes or no). Do you NOW use SMALL GROUP WORKSHOPS, DEMONSTRATIONS, FIELD TRIPS, TOURS OR DISCUSSION GROUPS? (yes or no). Do you NOW use FACE TO FACE OR TELEPHONE CALLS? (yes or no). Do you NOW use READING OF PRINTED MATERIALS? (yes or no). Do you NOW use MASS COMMUNICATIONS such as, RADIO, TELEVISION OR MINI-COMPUTERS? (yes or no). Examples of mini-computers are the APPLE, PET, OR RADIO SHACK COMPUTERS. Computers do not refer to hand held calculators. Do you NOW use INDEPENDENT STUDY? That is, do you participate in correspondence courses? (yes or no).

NOW, let's go back and look at the degree of use for each of the methods you indicated that you are NOW using when seeking information to "DEVELOP A SKILL." I will read the method or methods that you are NOW using and have you indicate on a scale of 1 to 5 your degree of use. You indicated that you are NOW using SMALL GROUP WORKSHOPS, DEMONSTRATIONS, FIELD TRIPS, TOURS OR DISCUSSION GROUPS to find information when "DEVELOPING A SKILL." Do you use the method--OFTEN: FAIRLY OFTEN: OCCASIONALLY: ONCE IN A WHILE: OR SELDOM? Circle the choice given. Circle only one number per method.

CONTINUE THROUGH THE METHODS THAT WERE CHECKED.

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7. NOW, I am going to ask you a question using the same list of methods, but ask that you think about the question in terms of what method or methods you would PREFER to use when seeking information on how to "DEVELOP A SKILL." Notice that we are changing from how you are NOW learning to how you would PREFER to learn. EMPHASIZE THE DIFFERENCE BETWEEN "NOW" AND "PREFER."

Are you ready to begin? What method or methods of learning would you PREFER to use when seeking information on how to "DEVELOP A SKILL?" For example, if you wanted to learn how to weld; learn how to sew; learn how to trim a tree; or learn how to decorate a cake. What method or methods would you PREFER to use? (You may need to add additional examples).

I will read the list of methods and have you indicate whether or not you would PREFER to use that method when finding information on how to "DEVELOP A SKILL." THEN, we will go back and have you indicate the degree of PREFERENCE from most to least preferred.

If you had your PREFERENCE in seeking information on how to "DEVELOP A SKILL" would you prefer to use LARGE GROUP MEETINGS, CLASSES OR LECTURES? (yes or no). If you had your PREFERENCE would you use SMALL GROUP WORKSHOPS, DEMONSTRATIONS, FIELD TRIPS, TOURS OR DISCUSSION GROUPS? (yes or no). If you had your PREFERENCE would you prefer to use FACE TO FACE OR TELEPHONE CALLS? (yes or no). If you had your PREFERENCE would you use READING OF PRINTED MATERIAL? (yes or no). If you had your PREFERENCE would you use MASS COMMUNICATIONS such as, RADIO, TELEVISION OR MINI-COMPUTERS? (yes or no). Examples of mini-computers are the APPLE, PET OR RADIO SHACK COMPUTERS. Computers do not refer to hand calculators. If you had your PREFERENCE would you use INDEPENDENT STUDY, that is, participate in a CORRESPONDENCE COURSE? (yes or no).

NOW, Let's go back and look at the degree of PREFERENCE in using EACH of the preferred methods you selected when seeking information to "DEVELOP A SKILL." I will read the method or methods that you preferred to use, and on a scale of 1 to 5 please indicate the degree of preference. You indicated that you PREFER FACE TO FACE OR TELEPHONE CALLS to find information when "DEVELOPING A SKILL." Would you PREFER MOST to use this method: PREFER to use it OFTEN; PREFER to use it OCCASIONALLY; PREFER to use it SOMETIMES; or PREFER LEAST to use the method. Circle only one number per method. CONTINUE THROUGH THE LIST.

WE ARE MOVING RIGHT ALONG, THERE ARE ONLY THREE MORE QUESTIONS TO ANSWER.

8. Another question closely associated with seeking information for a skill is seeking information to "ACQUIRE KNOWLEDGE." The next two questions are exactly like the last two, except they refer to obtaining information on how to "ACQUIRE KNOWLEDGE."

EMPHASIZE CHANGE IN THINKING OF SKILLS TO KNOWLEDGE.

Shall we begin? What method or methods of learning are you NOW using when you need information on how to "ACQUIRE KNOWLEDGE." For example, if you wanted to select a proper farm or home chemical for insect control; purchase equipment for the farm or home; learn how to care for a child; learn how to color coordinate a room or learn the history of the county. What method or methods would you NOW use? (You may need to add additional examples).

I will read the methods as we did before, and would you please indicate if you are NOW using that method when finding information on how to "ACQUIRE KNOWLEDGE." THEN, we will go back and have you indicate the degree of use for each of the methods you selected.

In seeking information to "ACQUIRE KNOWLEDGE" do you NOW use LARGE GROUP MEETINGS, CLASSES OR LECTURES? (yes or no). Do you NOW use SMALL GROUP WORKSHOPS, DEMONSTRATIONS, FIELD TRIPS, TOURS OR DISCUSSION GROUPS? (yes or no). Do you NOW use FACE TO FACE OR TELEPHONE CALLS? (yes or no). Do you NOW use READING OF PRINTED MATERIAL? (yes or no) Do you NOW use MASS COMMUNICATIONS such as, RADIO, TELEVISION OR MINI-COMPUTERS? (yes or no). Examples of mini-computers are the APPLE, PET OR RADIO SHACK COMPUTER. Computers do not refer to hand calculators. Do you NOW use INDEPENDENT STUDY, that is, participate in CORRESPONDENCE COURSES? (yes or no).

FINE. Let's look at the degree of use for each of the methods you indicated that you NOW use when seeking information to "ACQUIRE KNOWLEDGE." I will read the method or methods that you are NOW using and on a scale of 1 to 5 ask you to please tell me the degree of use. YOU indicated that SMALL GROUP WORKSHOPS, DEMONSTRATIONS, FIELD TRIPS, TOURS OR DISCUSSION GROUPS are used to find information when "ACQUIRING KNOWLEDGE." Do you NOW use the method OFTEN: FAIRLY OFTEN: OCCASIONALLY: ONCE IN A WHILE: OR SELDOM? Circle the choice given. Circle only one number per method.

CONTINUE THROUGH THE METHODS THAT WERE CHECKED.

9. Again we are going to take this same question and look at it as to what method or methods you would PREFER to use when seeking information to "ACQUIRE KNOWLEDGE." You will need to change your thinking from the methods NOW used to methods that you would PREFER to use. EMPHASIZE CHANGE.

I will read the list of methods and have you indicate whether or not you would PREFER to use that method when finding information on how to "ACQUIRE KNOWLEDGE." THEN, we will go back and have you indicate the degree of preference from most to least on all the methods that you selected.

Shall we begin? If you had your PREFERENCE when "ACQUIRING KNOWLEDGE" would you prefer to use LARGE GROUP MEETINGS, CLASSES OR LECTURES? (yes or no). If you had your PREFERENCE would you prefer to use SMALL GROUP WORKSHOPS, DEMONSTRATIONS, FIELD TRIPS, TOURS OR DISCUSSION GROUPS? (yes or no). If you had your PREFERENCE would you prefer to use FACE TO FACE OR TELEPHONE CALLS? (yes or no). If you had your PREFERENCE would you prefer to use READING OF PRINTED MATERIAL? (yes or no). If you had your PREFERENCE would you prefer to use MASS COMMUNICATIONS such as, RADIO, TELEVISION OR MINI-COMPUTER? (yes or no). Examples of mini-computers are the APPLE, PET OR RADIO SHACK COMPUTERS. Computers do not refer to hand calculators. If you had your PREFERENCE would you prefer to use INDEPENDENT STUDY, that is, participate in a CORRESPONDENCE COURSE? (yes or no).

NOW let's go back and look at the degree of PREFERENCE for EACH of the methods you selected when seeking information to "ACQUIRE KNOWLEDGE." I will read the method or methods that you preferred to use and on a scale of 1 to 5 please indicate the degree of preference.

You indicated that you PREFERRED FACE TO FACE OR TELEPHONE CALLS to find information when "ACQUIRING KNOWLEDGE." Would you PREFER MOST to use this method; PREFER TO USE IT OFTEN; PREFER TO USE IT OCCASIONALLY; PREFER TO USE IT SOMETIMES OR PREFER TO USE IT LEAST? Circle only one number per method.

CONTINUE THROUGH THE METHODS THAT WERE CHECKED.

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10. There are many places or sources of information that are used by people in their learning. We are particularly interested in only the Seward County Extension Service as a source of information. I would like to ask, do you personally use the SEWARD COUNTY EXTENSION SERVICE? That is, do you have any contact with the COUNTY EXTENSION AGENT, HOME ECONOMIST, EXTENSION 4-H AIDE, EXTENSION SPECIALIST, READ EXTENSION PUBLICATIONS (STATE OF FEDERAL), READ EXTENSION NEWSLETTERS, READ EXTENSION NEWSPAPER ARTICLES, OR LISTEN TO EXTENSION RADIO PROGRAMS?

(YOU MAY NEED TO TELL THE PERSON THE NAMES OF THE EXTENSION STAFF, SOME OF THE MEETINGS THAT WERE HELD DURING THE PAST 12 MONTHS, RADIO PROGRAMS THAT WERE AIRED AND SOME OF THE NEWSPAPER ARTICLES PRINTED IN THE PAPER).



All the questions that I will ask pertain to your PERSONAL contact with the Seward County Extension Service during the past 12 months. Do not include any other family members contacts.

Again, I will read the questions and ask that you respond with a YES or NO. Then, I would like to have you estimate the number of times you had contact under each of the specific categories being studied.

Did you PERSONALLY attend a meeting in Seward County in which information was presented by one of the following: THE SEWARD COUNTY EXTENSION AGENT? (yes or no). The COUNTY EXTENSION 4-H AIDE? (yes or no). A STATE EXTENSION SPECIALIST? (yes or no). A LOCAL 4-H CLUB LEADER? (yes or no). THE COUNTY OR AREA HOME ECONOMIST? (yes or no). RECORD EACH RESPONSE.

ESTIMATE the total number of meetings you personally attended with Seward County Extension Staff during the past 12 months. RECORD THE NUMBER.

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Have you PERSONALLY talked on the telephone with a Seward County Extension Staff member about a SPECIFIC problem during the past 12 months? (yes or no). RECORD THE RESPONSE.

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Have you PERSONALLY discussed a problem in PERSON with a Seward County Extension Staff member during the past 12 months? (yes or no). RECORD THE RESPONSE.

ESTIMATE the total number of times you PERSONALLY discussed in PERSON a problem with a Seward County Extension Staff member during the past 12 months.

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Have you PERSONALLY received a publication (Federal or State Bulletin) from the Seward County Extension Office during the past 12 months? (yes or no).

ESTIMATE the total number of publications (Federal or State Bulletins) that you PERSONALLY received from the Seward County Extension Office during the past 12 months. RECORD THE NUMBER.

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Have you PERSONALLY received a newsletter (printed or mimeographed) from the Seward County Extension Office during the past 12 months? (yes or no).

ESTIMATE the total number of newsletters (printed or mimeographed) that you PERSONALLY received from the Seward County Extension Office during the past 12 months. RECORD THE NUMBER.

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Have any of the Seward County Extension Staff visited you on your farm or at your home during the past 12 months? (yes or no). RECORD THE RESPONSE.

ESTIMATE the total number of visits to your farm or home by any Seward County Extension Staff member during the past 12 months. RECORD THE NUMBER.

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Have you PERSONALLY read any newspaper article written by the Seward County Extension Staff during the past 12 months? (yes or no). RECORD THE RESPONSE.

ESTIMATE the total number of newspaper articles that you have PERSONALLY read that were written by one of the Seward County Extension Staff during the past 12 months. RECORD THE NUMBER.

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Have you PERSONALLY listened to any radio program prepared by a Seward County Extension Staff member during the past 12 months? (yes or no). RECORD THE RESPONSE.

ESTIMATE the number of radio programs that you PERSONALLY heard that were made by one of the Seward County Extension Staff during the past 12 months. RECORD THE NUMBER.

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That completes the questionnaire and the interview. I want to personally thank you for the interview and providing the information.

APPENDIX F: HUMAN SUBJECTS APPROVAL FORM

# INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH

IOWA STATE UNIVERSITY

(Please follow the accompanying instructions for completing this form.)

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1. Title of project (please type): THE DEGREE OF SELF-DIRECTEDNESS AND THE CHOICE  
OF LEARNING METHODS AS RELATED TO A COOPERATIVE EXTENSION PROGRAM

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

Dennis D. Bejot 10/27/80 Dennis D. Bejot  
Typed Name of Principal Investigator Date Signature of Principal Investigator

201 Curtiss Hall 294-4143  
Campus Address Campus Telephone

3. Signatures of others (if any) Date Relationship to Principal Investigator  
A. J. Petersen \_\_\_\_\_ Major Advisor

4. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects, and (D) covering any topics checked below. CHECK all boxes applicable.

- ☐ Medical clearance necessary before subjects can participate
- ☐ Samples (blood, tissue, etc.) from subjects
- ☐ Administration of substances (foods, drugs, etc.) to subjects
- ☐ Physical exercise or conditioning for subjects
- ☐ Deception of subjects
- ☐ Subjects under 14 years of age and (or) ☐ Subjects 14-17 years of age
- ☐ Subjects in institutions
- ☐ Research must be approved by another institution or agency

5. ATTACH an example of the material to be used to obtain informed consent and CHECK which type will be used.

- ☐ Signed informed consent will be obtained.
- ☒ Modified informed consent will be obtained.

6. Anticipated date on which subjects will be first contacted: 11 17 80  
Anticipated date for last contact with subjects: 11 25 80  
Month Day Year

7. If Applicable: Anticipated date on which audio or visual tapes will be erased and (or) identifiers will be removed from completed survey instruments: 12 15 80  
Month Day Year

8. Signature of Head or Chairperson Date Department or Administrative Unit  
[Signature] 10/27/80 Prof. Adams

9. Decision of the University Committee on the Use of Human Subjects in Research:  
☒ Project Approved ☐ Project not approved ☐ No action required  
George G. Karas 10-29-80 [Signature]  
Name of Committee person Date Signature of Committee Chairperson